

**Access to ‘alternative’ food system qualities: a comparative study of  
internet and non-internet mediated systems of provision.**

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## **Abstract**

‘Alternative’ food systems (AFS), understood as assemblages of agri-food related production, exchange and consumption activities, often characterised by increased physically and/or cognitive proximity between producers and consumers, have experienced considerable academic and popular interest in the past decade and a half. Despite continued growth in the number and popularity of AFS manifestations like farmers’ markets, research suggests that these provisioning systems remain the preserve of relatively affluent consumers. Furthermore, the language and practices of alternative food system advocates has tended to create a divide between ‘alternative’ and ‘conventional’ food systems which is not always empirically supported and which has made attempts at improving AFS access equity susceptible to claims that their defining quality attributes are inevitably diluted as they enter the mass market.

At the same time, the growing popularity of internet enabled e-commerce has resulted in fundamental changes to many markets, including claims that there is a structural shift by consumer away from mass marketed products towards niche markets, such as those which characterise AFS. This study examines this changing dynamic via a comparison of e-commerce mediated AFS and non e-commerce mediated AFS. The purpose of this comparison being to determine if the application of e-commerce to AFS has resulted in a relative increase in demand from resource constrained consumers and/or a significant change to the quality conventions associated with these systems and which currently mark them as ‘alternative’.

This research goal required the development of a novel theoretical model capable of incorporating the language of firm level strategy, as it relates to e-commerce and niche markets, as well as providing a means of discussing AFS quality attributes which does not resort to a bifurcated theory of alternative and conventional food systems. To this end, a theoretical model is advanced within this study which incorporates Michael Porter’s theory of generic strategy, the product lifecycle theory and French conventions theory. The latter being particularly useful as a tool for highlighting differences in production systems based upon different consumer and producer quality conventions.

Empirical data for this study was gathered using both qualitative and quantitative methods. Qualitative data was gathered via in-depth interviews with AFS business actors within both e-commerce and non e-commerce mediated AFS in Melbourne, Australia and Vancouver,

Canada. Quantitative data was gathered via a survey of 375 consumers who regularly acquired food through either the e-commerce mediated or non e-commerce mediated AFS studied in Melbourne and Vancouver.

Results from this study show that the application of e-commerce to AFS is indeed associated with significant changes in consumer demand for AFS products, including consumer demographics, order size and consumer motivation. The data gathered on consumer motivation is particularly useful in determining how the consumer's understanding of quality varies between e-commerce mediated and non e-commerce mediated AFS. Together with the interview and case study data gathered from participating AFS firms this study is able to show that the application of e-commerce to AFS is associated with changes in access for resource constrained consumers, but also that these changes have come at the expense of specific quality attributes. These findings are relevant not only to AFS scholars and participants interested in improved access equity and a reduction in simplistic interpretations of AFS, but also to participants in niche markets more generally which rely on the production, exchange and consumption of diverse quality attributes.

## Preface

Between February 2008 and February 2009 I was employed by an English entrepreneur to help develop a business model which would enable small to medium sized, low input, mixed farms to profitably supply local consumer demand. At that time in England the issue of ‘peak oil’ was getting significant public recognition and there was real concern being put forward by some authors (Barling, Sharpe & Lang 2008; Lucas 2007; Maynard 2009), that because more than 60% of food consumed in the UK was imported, the country was vulnerable to food insecurity should oil price rises significantly affect global food supplies. As 2008 progressed, and over 30 countries experienced food related civil unrest (Adam 2008), the prospect of food shortages in Britain suddenly became, if not a common concern, then at least a lightning rod for those already interested in developing lower input and more localised food systems. It was in this context that I was employed to help develop and implement the *Agrarian Renaissance* business model on a 75 hectare test farm in rural Hertfordshire.

The most singular feature of this business model was the extreme diversity of animal and plant production it called for. The varied production units on the test farm included: 140 sheep across two pedigree flocks, 60 cows, 6 rare breed sows, 250 chickens for slaughter, 500 laying hens, 100 ducks, 100 turkeys, 30 geese, 7 acres of mixed orchard, 9 acres of organic vegetable production, 25 bee hives and 5 acres of woodland for timber sales. Ostensibly, the main reason for this diversity was to enable the development of a closed loop production system in which animal fodder was produced on the farm, while animal manure was in turn used to fertilize the land for other productive purposes such as vegetable farming; as well as to provide the local community with what was marketed as a ‘relatively complete diet’. As I struggled with the economic realities of trying to efficiently structure this operation, including how to find multi-skilled staff, I came to believe that the entrepreneur was not insisting on extreme diversity and limited scale primarily for environmental reasons – or to ensure the local community would have access to a relatively complete diet - but rather because it created a unique selling point and essentially turned the farm into a novelty event which people would pay to come and see and be a part of. However, as someone interested in developing a food system which could make a viable contribution to food security, I became increasingly disheartened by the entrepreneur’s unwillingness to adopt any sort of efficiency measure, no matter how environmentally sustainable, that might diminish the novelty of the enterprise in anyway. For example, the idea of reducing on-farm diversity by partnering with

one or more neighbours to have them produce some elements required for the desired closed loop system – thus increasing the economies of scale for the remaining production units – was flatly rejected. As such, it became increasingly apparent to me that the entrepreneur was squarely focused on developing a niche position in the market, differentiated in such a way that it could only appeal to wealthy customers. Personally, I found this unsatisfying as it seemed that rather than fulfilling its claims of boosting the food security of the local community, it merely allowed another avenue for status demonstration by the privileged few who could afford the products being produced.

Regardless of the validity of concerns about food insecurity in developed countries such as England, or the relative sustainability of small scale low input production units selling more directly into local markets, it is my opinion that when one makes claims about the moral superiority and physical inevitability of a particular type of food system, as was the case in this instance, issues of access equity or distributive justice become important. Throughout this study, claims about the relative desirability of various types of food production and distribution are highlighted. However, it is not my intention to vigorously defend my support of any particular food system practices; so much as it is to advance knowledge of how such systems might be made more accessible in light of that support.

## **Acknowledgements**

While the production of this manuscript has sometime been a lonely task, I could not have completed it on my own. My thanks and appreciation goes to my primary supervisors Professor Jonathan West and Professor Anthony Arundel for both challenging and supporting me throughout this journey. Jonathan encouraged me from the outset to view the process of doctoral research as an opportunity not just for new knowledge creation about a specific topic, but also a chance to learn more about myself and my capabilities. Anthony tested those capabilities, ensuring that when I applied quantitative methods to my research I did so with a firm understanding of the underlying principles.

My thanks also go out to the employees and business owners who let me enter their place of work and made their time available so that I could interview them. In particular, I would like to thank Andrew Davison the CEO and co-owner of FFH who personally met with me twice, and made numerous staff available to me, despite the rigors and fast passed nature of what is a growing business. Similarly, I would like to thanks the staff and volunteers at both Fresh BC in Vancouver and Gaia's Table in Melbourne for taking time to meet with me and help me understand what drives these not-for-profit ventures to continue in a very challenging and competitive marketplace.

The staff and volunteers from both the Vancouver Farmer' Market Association and the Melbourne Farmers' Market Association were both helpful and accommodating in making time available to talk to me and in allowing me to survey customers attending their markets. For that assistance I am very grateful.

Lastly, but not less importantly, I owe a very large debt of gratitude to my wonderful family for encouraging and supporting me throughout this journey. To my parents Robin and Judy, as always, you have been there when I needed you and you have given me space when I needed that too, I couldn't have asked for more. To my amazing wife Lisa, you have made a long road feel short. Thank you for your unconditional support and willingness to listen. It has made all the difference.



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## Chapter 1: Introduction

For most people residing in affluent countries, the search for adequate nutrition is no longer a major, or sometimes even conscious, concern. For these geographically fortunate consumers, food is so cheaply and easily available they could be forgiven for ignoring the scale and complexity of the systems of provision which deliver them this unprecedented cornucopia (Fonte 2002). However, while price of food for consumers, in terms of cost per calorie, has reduced over multiple decades (Center for Sustainable Systems 2011; US Bureau of Labor Statistics 1999), a range of both popular and academic authors now suggest that the unintended negative effects of modern industrially designed and globally integrated food systems is resulting in significant environmental and social harm, such that the now dominant or 'conventional' food system model is fundamentally unsustainable (Buck, Gets & Guthman 1997; FAO 2012; Pollan 2008; Thompson et al. 2007; Waltner-Toews 1996).

Key environmental concerns raised about the conventional food system model include the reliance on monoculture production systems, and the heavy use of petro-chemical derived fertilizer and pesticide. Agricultural monocultures have become so ubiquitous and geographically vast that the biodiversity level is being significantly reduced in many agricultural landscapes (Altieri 1999; Killebrew & Wolff 2010). At the same time both local rivers and downstream water catchments have become significantly degraded by pesticide and fertilizer pollution (Angelo 2010; Pollan 2006; Waltner-Toews 1996). Others authors have pointed towards unbalanced trade relations within the conventional food system model which lock farmers into a 'cost price squeeze' with consolidated input providers on one side and vertically integrated retail conglomerates on the other, such that remaining farm units must continually find new efficiencies, often through increased scale, mechanisation and land use intensity (Kenner et al. 2009; Scrinis 2007). In turn, agriculture has become less labour intensive such that only a small percentage of the population continues to have first-hand knowledge of the processes behind the production of their food (Goodman, Goodman & Redclift 2009; Pollan 2006).

Criticism of the conventional food system model has led to calls for food system change, as well as active attempts to perform the food system differently. Over the last 15 to 20 years academics from fields such as economic geography and rural sociology have been able to point to an increasing range of 'alternative' food systems (AFS) which are understood by



some to constitute an explicit counter movement to the logic and practices of the conventional food system (Andree 2009; Goodman 2004; Guthman 2004; Holloway et al. 2010; Pollan 2008; Venn et al. 2006). The diversity of interests driving what Pollan calls (2010, p. 1) this ‘food movement rising’ is exhibited in the diversity of practices and normative justifications which characterise these emergent food systems (Venn et al. 2006). Empirical examples of AFS included in academic literature include, but are not limited to, organic production methods, local or ‘short’ food supply chains, and efforts to increase consumer agency, such as consumer food co-operatives Venn et al. (2006).

However, empirical research have increasingly challenged the existence of any neat dichotomy between the so-called alternative and conventional food systems (Andree et al. 2010; Ilbery & Maye 2006). There is also a growing body of scholars arguing for a more critical engagement with AFS, cautioning that they may in fact act as a socially exclusionary movement, reinforcing a multi-tiered food system, in which access to food widely understood as ‘good food’ (Sage 2003, p. 1), is increasingly restricted on the basis of income and class, such that ‘only highly privileged consumers are in a position to join this ‘flight to quality’ (Goodman 2009, p. 15).

According to the influential theory of competitive strategy advanced by Michael Porter (Porter 1980), the exclusivity of AFS is understandable as they tend to be populated by small niche producers who cannot successfully compete against larger firms on price. However, the advent of the internet and widespread deployment of electronic commerce (e-commerce) dependent business models has led other authors to suggest that this either/or choice between product differentiation and price based marketing is being broken down, as consumers increasingly demand niche products from what has been termed the ‘long tail’ of the online supply curve (Eonsoo, Nam & Stimpert 2004) (Anderson 2004; Brynjolfsson, Hu & Simester 2011; Choi & Bell 2011).

This study explores the impact of this changed business environment on AFS. Specifically, it seeks to determine if increased demand for niche products online is translating into more price based competition within e-commerce dependent AFS, such that they are becoming more accessible to resource constrained consumers relative to offline equivalents, such as farmers’ markets. In addition, this study seeks to determine how the application of e-commerce to AFS supports, or undermines, those social and environmental quality attributes cited as differentiating them from the conventional food system.

Currently little is known about how changes to consumer preferences in the online environment will influence demand for AFS, or the ability of firms and consumers participating in AFS to maintain the same ‘conventions’ of quality which they address in the offline marketplace. While there has been limited case study based research into specific e-commerce dependent food businesses which could be characterised as forming part of an AFS (Butler, Jacqueline & Catherine 2009; Volpentesta & Ammirato 2010), this study makes a unique contribution by simultaneously considering the effect of e-commerce on both consumer access and the integrity in alternative food system quality attributes. The results of this study therefore offer new insights into how e-commerce is changing demand for alternative food systems, but also the unique social, environmental, and economic processes and interactions which constitute AFS.

When discussing the development and continued evolution of AFS, this study seeks to avoid the simplistic alternative/conventional dualism which permeates much AFS literature, via the development of theoretical framework based on a novel combination of ‘conventions’ theory and the related ‘worlds of production’ theory (Morgan, Marsden & Murdoch 2006; Rosin & Campbell 2009; Stræte 2004). The utility of conventions theory for the purposes of this study rests upon its ability to identify a nuanced range of factors which differentiate social and economic systems. This is done via the examination of shared, yet largely subjective interpretations of ‘quality’ or ‘value’ which support efficient coordination between economic and social agents (Boltanski & Thévenot 2006 [1991]). According to conventions theory, efficient coordination between economic agents is possible due to a symbolism of rationality, rather than rationality itself. That is, agents act in ways they think will be perceived as rational given the existence of shared understandings between individuals. When these mutual understandings become durable, they become ‘conventions’, which actors use to anticipate and judge the behaviour of others, thus facilitating inter agent coordination by lowering the costs associated with uncertainty (Biggart & Beamish 2003; Boltanski & Thévenot 2006 [1991]).

By highlighting how multiple interpretations of quality coordinate social and economic behaviour, conventions theory moves the study of AFS away from the overly simplistic alternative/conventional dichotomy, toward a more nuanced interpretation of difference. However, to move the examination of AFS more firmly into the arena of economic production, this study also applies the related ‘worlds of production’ theory developed by Storper and Salais (1997, p. 19). According to Storper and Salais, efficient production

systems do not draw from the full range of justification realms outlined by Boltanski and Thévenot, but rather they rely upon a coherent ‘bundle’ of conventions. By reference to these differing bundles, Stoper and Salais contend that it is possible to identify a basic or ideal typology of four production systems, or ‘worlds’ of production. The identification of these four ideal worlds of production, and the prescription that efficient production is associated with the proper alignment of conventions, makes this theory useful when considering how different food system participants are likely to change in the face of specific challenges and opportunities, including in ways which may necessitate a change in their world of production.

While both conventions theory and worlds of production theory have previously been applied to the study of agri-food supply chains (Rosin & Campbell 2009; Stræte 2004), including alternative food systems, this study makes a unique contribution to this area of theory via the development of a theoretical model which explicitly links these two theories – as they relate to alternative food systems. This is done via the suggestion that the broader pallet of quality interpretations associated with conventions theory is better suited to the discussion of quality assessments made by consumers, while the more limited and production focused worlds of production theory is more relevant to the domain of producers. The model then proscribes how producers and consumer, and their various quality assessment realms, are linked by the variability of communication potential in different market contexts. Specifically, the larger the market the more limited the range of quality parameters which can be communicated between producer and consumer (Ponte 2009). This novel theoretical model is useful for examining how changes in communication technology, and firm level strategy, may bring about significant change in the conventions of quality adopted by both consumers and producers, which in turn is likely to lead to material changes in how food is produced, distributed and consumed.

The focus on shared understandings of quality, applied in this study, necessitates a research methodology which can give voice to the quality interpretations of AFS participants both individually and in aggregate. This task is accomplished via the use of both qualitative and quantitative research methods. While mixed research methods have been viewed by some as incompatible due to divergent epistemological foundations (Lincoln & Guba 1985), this study adopts the ‘pragmatic’ view that the mixing of qualitative and quantitative methods is valid due to its ability to address certain research problems with a high degree of ‘completeness’ (Onwuegbuzie & Leech 2004; White 2011). In particular, given the twin aims of this study to both shed new light on the relative accessibility of online AFS, and the quality constructs

employed by participants, a mix of price data, demographic variables and in depth information on how quality is interpreted individually and in aggregate is required.

The comparative nature of the research questions investigated by this study also lend themselves to a direct comparison of AFS which are heavily dependent on the internet and e-commerce and those that are not. As such this study examines a range of e-commerce mediate AFS and traditional offline AFS in specific locations. In order to broaden the relevance of this comparative approach, two economically similar, yet geographically distant study locations were chosen - specifically Melbourne, Australia and Vancouver, Canada. The ability to compare findings from these locations is based upon the fact they are both affluent first world cities with highly developed 'conventional' food systems, as well as hosting established online and traditional AFS.

Within each study location, farmers' markets are used to represent traditional AFS. While farmers' markets are not in and of themselves a complete food system, they are critical enabling points for short food supply chains in that they enable small scale local food producer to sell directly to consumer without having to yield control of products or revenue to third party middleman. The growth of farmers' markets within many first world economies (Adams 2011; US Dept. of Agriculture 2011) has also been held up as emblematic of the growth of AFS more generally (Venn et al. 2006). For the purposes of comparison, one online vendor of local and or organic food was also identified in Melbourne, while two were considered in Vancouver. These online vendors are comparable to farmers' markets in that they enable consumers to purchase a range of local and organically produced food products, replete with in-depth information about the circumstances of production, thus enabling consumers to make complex quality assessments.

Within each study location, three primary research methods were deployed. The first data collection method involved in-depth case studies of the online AFS firms under consideration in each location. This case study approach used onsite visits by the researcher, in order that photographs and detailed notes could be collected, as well as enabling multiple face to face, semi-structured interviews with senior staff at each firm. The second primary research method used, was the deployment of a survey instrument which captured demographic and motivational data from 375 AFS participant consumers. These consumers were divided into two groups for the purposes of comparison. The first group shopped for food using one of the online case study firms, while the second group frequented local farmers' markets, but did

not shop for food online. The final data gathering method involved a survey of product prices across both the online case study firms and farmers' markets in the same location.

This research effort resulted in data that provides significant new insights into how e-commerce is altering the patterns of demand for AFS. This includes evidence that online consumers do exhibit different demographic variables to traditional AFS consumers, although not necessarily in ways which characterise them as resource constrained. Furthermore, this study confirms that growth in online AFS is changing how and why people engage with these novel food provisioning systems. In particular, this study shows that online AFS are likely to drive increased demand for the physical product outputs of AFS, generally being local and/or organic food items. However, many of the less tangible outputs of traditional AFS, such as the provision of rich product information via interpersonal contact, while not being lost, are being fundamentally altered as participants modify their shared interpretations of quality.

The need to investigate these issues is driven both by the litany of complaints levelled at conventional food systems and the growing realisation that AFS are significantly less accessible for resource constrained consumers. The prospect that the adoption of online e-commerce can facilitate expanded demand for AFS in a manner which incorporates resource constrained individuals, while retaining the perceived positive social and environmental aspects of these novel food provision systems is what motivates this study. However, the results emanating from this study have relevance beyond the proponents and participants of AFS to other firms and production systems promoting the importance of diverse social and environmental outcomes, but which currently have limited mainstream consumer appeal due to poor price competitiveness. Thus at an empirical level, the significance of this study rests on the ability to shed light on how e-commerce, as a pervasive innovation, may be changing the way firms and consumer balance seemingly competing priorities.

## **Structure of the thesis**

The second chapter of this study commences by outlining the role of a number of key agri-food system management concepts, including the role of transactions costs economics in understanding and optimising inter-firm coordination within agri-food systems. This chapter also introduces alternative food systems (AFS) as the principle subject of enquiry. The dualistic nature of much AFS related research is discussed as is the usefulness of both conventions theory and worlds of production theory for achieving a more nuanced critique

(Boltanski & Thévenot 2006 [1991]; Storper & Salais 1997). Rather than being a fringe concern, it is shown here that AFS are in fact a significant and growing market force within many first world countries. Yet, despite this growth, evidence is presented to suggest that AFS remain a relatively exclusive movement with limited accessibility for people on low incomes. A theoretical explanation for this lack of accessibility is provided by reference to both Porter's theory of generic strategy, the product life cycle concept (Day 1981; Porter 1980).

The third chapter of this study explores the growing evidence that the use of ICT and e-commerce may enable small firms selling into niche markets, as is typical within AFS, to reach an expanded market. To extrapolate some of the likely impacts of increased demand for niche products, a theoretical model is developed which considers this increased demand with reference to Porters' generic strategies and conventions theory. The questions raised by this model are restated at the conclusion of this chapter as the principle research goal of this study.

Within chapter four, existing research examining the role of ICT and e-commerce in food systems generally, and food retail specifically is considered, as is the small body of literature directly addressing the use of ICT within AFS. The early enthusiasm that surrounded internet enabled food shopping is highlighted, as well as the business failures and financial losses which affected a significant percentage of early market entrants. The problems associated with these early online food sellers is shown to have stemmed largely from a range of challenging logistics issues (Murphy 2003; Yrjola & Tanskanen 2005).

The research methods employed in this study are presented in chapter five. They comprised three principle data gathering activities. The first of these involved three in-depth qualitative case studies examining significant online AFS firms identified in Vancouver Canada and Melbourne Australia. The case study method used in-depth interviews with key employees to gather information about how each firm used ICT, as well as how they adhered to quality conventions associated with offline AFS (Goodman 2009; Rosin & Campbell 2009; Stræte 2004). The second primary research tool was a quantitative survey of online and offline food prices. This pricing information was gathered in the search for evidence of increased price based competition as a result of competition from online AFS firms. The third data gathering activity involved a 15 question survey of both online AFS and offline farmers' market consumers. Methodologically, the deployment of this survey is significant because according to both Lockie and Pritchard (2001) and Goodman (2009) agri-food studies has paid inadequate attention to the views and experiences of consumers in the evolution of food

systems. This study avoids this production focused bias by capturing information about the food buying practices, beliefs and demographic characteristics of retail food shoppers. Furthermore, by developing a theoretical model which integrates the quality assessment schemes of producers and consumers, this study acknowledges the conjoined role producers and consumers play in determining and maintaining notions of quality, and therefore material outcomes, in agri-food supply chains.

The information gathered via these research methods are compiled and presented in chapter six of this study. The research results from the in depth case studies are first presented, as these give a good overview of online AFS, including their use of ICT and e-commerce. The next section of the results chapter presents the findings of the comparative price survey. These results highlight the different pricing strategies employed as well as evidencing different levels of efficiency. Finally, in this chapter research results from the consumer surveys are presented, providing insight into the nature of the competitive environment, including the different quality attribute consumers seek from online and offline providers, as well as consumer willingness and ability to pay. The results of a logistical regression analysis are provided to help determine the demographic characteristics and shopping motivations of both online and offline AFS consumers.

The results outlined in chapter six are then analysed and discussed in relation to the research question within chapter seven. Initially, the observational information outlined in chapter six, in relation to the use of ICT and e-commerce by the three online AFS case study firms is used to develop a multi-stage e-commerce adoption model (Kiong 2004; United Kingdom Department of Trade and Industry 2002) capable of clearly displaying the relative level of e-commerce adoption across all study sites against established criteria. This information is then used to discuss the association between e-commerce adoption and changes to AFS demand and competitive strategy.

The summation of this research project is presented in chapter eight. It is asserted there that the theoretical model developed in this study is both a novel and useful means of understanding how technological innovation, particularly ICT, may impact on different production and consumption networks in different ways, including in ways that cause significant change in the normative quality assessment schemes of both producer and consumer participants. For the purposes of answering the research question at the core of this study, this model has been useful in so far as it helps explain how and why ICT and e-

commerce do in fact present limited opportunities to increase access to AFS, and potentially niche/artisanal production markets more generally, although still at the cost of certain product qualities.

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## Chapter 2: Agri-food supply chains and networks

When scholars from a diverse range of academic fields seek to understand and improve the complex processes by which food is made available to consumers, two conceptual models are often used. The first considers the complex interactions involved in bringing food to the end consumer as a linear process by which goods are moved sequentially from one production process to the next until finally the finished good is received by the consumer, while at the same time value, in the form of money, flows in reverse from the consumer back through the same linear chain of actors. Depending on where the emphasis is placed, this linear model is referred to either as a supply chain or value chain, with the former focused on the flow of products to the consumer, and the latter the flow of value from the consumer (Feller, Shunk & Callerman 2006). The complementarity of the supply chain and value chain approaches is expressed by Feller et al (2006, p. 4) when they state:

*[A] supply chain and a value chain are complementary views of an extended enterprise with integrated business processes enabling the flows of products and services in one direction, and of value as represented by demand and cash flow in the other[.]*

By encouraging participants to view their production activities as part of an extended enterprise, both the supply chain and value chain models encourage firms to view upstream and downstream actors as potential partners with whom they can optimise relations. However, this type of optimisation depends on the existence of an ongoing relationship between participants, potentially including the use of formalised hierarchical agreements that dictate how different actors within the chain should behave relative to one another (Feller, Shunk & Callerman 2006; Meijer 2004).

Another popular concept used to describe and optimise food systems is the supply network. The supply network concept seeks to better accommodate and explain the commercial complexity associated with the creation and delivery of goods and services from the source of raw materials to their destination in end-customer markets. In place of a linear supply/value chain model, network descriptions encompass lateral links, reverse loops, two-way exchanges, including within the upstream and downstream activity (Harland et al. 2001; Lazzarini, Chaddad & Cook 2001).

Beyond their use as descriptive constructs, both the supply network and supply/value chain concepts provide a theoretical insight into how food systems, as complex economic markets, are ‘coordinated.’ According to Meijer (2004, p. 4) market coordination or governance is: ‘a collection of rules, institutions and constraints structuring [...] transaction[s] between various stakeholders.’ The existence of market coordination or governance structures is important because:

*When the interdependent transactions in a value chain are ill coordinated, synergy benefits are lost. In a dynamic environment, where competitiveness and performance depend on rapid responses to changes in prices, technologies and policies, the coordination problem becomes the problem of coordinated adaptation (Bijman, Muradian & Chechin 2011, p. 85).*

That is, economic actors, be they regions, firms or individuals, who can better coordinate their activities with their customers and suppliers are more likely to adapt and prosper.

However, the coordination task is made difficult by the fact that economic actors do not make economic decisions with complete knowledge. That is, decisions must be made in the face of uncertainty and bounded rationality. It is efforts to reduce the costs associated with this uncertainty which leads to the development of organising structures (Boltanski & Thévenot 2006 [1991]; Williamson 1993). Economic actors, be they individuals or firms, benefit from processes and structures which reduce the palette of likely future outcomes because it improves their ability to calculate the likely future return on current investment decisions.

The conventional view of market coordination is that it operates differently depending on whether a transaction takes place within an open market, a hierarchy, or a network (Lazzarini, Chaddad & Cook 2001; Thompson 2003; Williamson 1981). When economic agents, whether individuals or firms, engage in transactions ‘organised’ through open markets, which can take place within both food supply chains and networks, they are understood as engaging in one-off price-based exchanges in which all actors are pursuing their own atomistic self-interest (Biggart & Beamish 2003). That is, actors coordinate their own behaviour based on the belief that all market participants are seeking to optimise their own immediate, short term return.

Conversely, the second organising force, the hierarchy, involves an ongoing principle agent relationship in which the principle is able to enforce exchange conditions on the agent, often

through a formal contract, subsequent to an initial payment (Jones, Hesterly & Borgatti 1997). Hierarchical forms of market coordination include instances where transactions are carried out within a firm, for example when an employee is hired to fulfil a particular function, rather than the firm outsourcing that function on the open market. Hierarchical coordination can also be seen in extended agri-food supply chains, when for example a large supermarket chain enacts 'preferred supplier' agreements with a limited number of firms within any given product category. In exchange for a privileged level of access to the retailers' customers, the producer must adhere to numerous contractual agreements, for example in relation to product quality, price and timeliness (Hingley 2005).

The third organising force, the network, tends to govern transactions not via competition and price as in the market, or command and authority as within a hierarchy, but rather through 'cooperation/consensus/mutuality' (Thompson 2003, p. 14). That is, rather than one off exchanges of value, or an ongoing formalised exchange relationship, networks are characterised by interpersonal and inter-organisation informal norms, which are built up through repeated interactions and serve to define the terms of exchange (Jones, Hesterly & Borgatti 1997; Meijer 2004).

An explanation for how economic agents choose between these different coordination mechanisms is provided by transaction costs economics, as developed originally by Ronald Coase and Oliver Williamson (Coase 1937; Jones, Hesterly & Borgatti 1997; Lazzarini, Chaddad & Cook 2001; Meijer 2004; Thompson 2003; Williamson 1993). Specifically, economic agents are thought to coordinate their interactions in ways that minimise transaction costs - transaction costs being those costs incurred as a result of participating in a market, but which are not directly related to production. According to Thompson (2003), there are three main sources of transaction costs.

- **Search and information costs:** Buyers need to expend resources searching for information on which suppliers are able to fill their order and making sure that the product is able to satisfy their needs. An example of an information cost could include time taken to obtain impartial information regarding the vendor's claims about product quality.
- **Bargaining costs:** There may be costs associated with putting a deal in place, for example, when a buyer pays a commission to a buying agent to negotiate the deal on their behalf.

- **Policing and enforcement costs:** Finally, the buyer may incur costs associated with first purchasing, and then enforcing, any warranty on the product, possibly including court action.

Transaction costs are thought to have a significant impact on the structure and operation of food systems, including whether they move away from open market transactions toward formalised hierarchical agreements between vertically aligned participants; such as when a supermarket chain drafts preferred supplier agreements with farmers and processors (Bijman, Muradian & Chechin 2011; Hingley 2005). Also, the rise of informal networks between groups of actors who may otherwise be considered competitors can be understood as an attempt to minimise transaction costs. For example, when a group of co-located farmers instigates a shared marketing program that lowers search costs for their consumers (Volpentesta & Ammirato 2008).

Within this study, the term alternative food system(s) (AFS) is used to describe the main analytical unit, that being particular groupings of firms and consumers connected by agri-food trade relations. This term is a catch all in that it can incorporate both supply chains and supply networks, however, where the hierarchical or network aspects of these systems of food provision are particularly salient, this is highlighted, as is the role of transactions costs.

In addition to the varied structural aspects, much of what has been written about AFS tends to define them via criticisms of the conventional food system (Hendrickson & Heffernan 2002; Scrinis 2007). It is not the intention of this study to test the validity of all of these criticisms, but rather to highlight how much of the academic and popular literature, referred to here as agri-food studies, tends to define AFS in bifurcated and relatively uncritical terms of beneficence.

### **Criticising the ‘conventional’ food system**

Within the agri-food studies literatures, especially those arising from rural sociology, political economy and economic geography scholars, the dominant, or ‘conventional’ food system is characterised by terms such as: productionist, industrial, modernist and globalised (Goodman 2003; Morgan, Marsden & Murdoch 2006; Renting, Marsden & Banks 2003). Within this critique, the conventional food system is understood as an assemblage of increasingly opaque and globalised food production, processing, retailing and consumption activities, all of which are dependent on ever increasing efficiency, derived primarily from increased scale,

hierarchical integration and technological advancement (Scrinis 2007). While the efficacy of these practices, in terms of increasing the overall quantity of food produced and reducing the average price per calorie for consumers is sometimes acknowledged (Goodman 2009), more commonly the agri-food studies literatures pertaining to AFS discuss conventional food systems in terms of their production of a range of negative environmental, social and economic externalities (Goodland 1997; Hendrickson & Heffernan 2002; Jones et al. 2010; Little, Maye & Ilbery 2010; Scrinis 2007).

The environmental concerns most commonly ascribed to conventional food systems relate to the industrial processes involved in food production and distribution. Problems highlighted within this literature include soil, air and water pollution stemming from the production and use of synthetic fertilizers and pesticides, soil erosion and degradation due to intensive production methods employed on unsuitable ground, and biodiversity loss due to monoculture production practices (Buck, Gets & Guthman 1997; Goodland 1997; Naylor 2008; O'Connor 2011; Weis 2010). Modern food production, packaging, distribution and retail systems are also significant users of energy, meaning they are also large emitters of greenhouse gases (GHG) (Center for Sustainable Systems 2011; Mckinnon 2010; Weis 2010). While the complexity of food systems makes accurately calculating GHG emissions difficult, attempts from the United Kingdom (UK) and the United States of America (US) suggest that the combined GHG emissions from primary and secondary production, transport, storage and retail of food is responsible for approximately 19% of anthropogenic emissions in the UK and 16% in the US (Garnett 2008; Weber & Matthews 2008). Furthermore, research by the Center for Sustainable Systems at the University of Michigan (2011) suggests that in the US, the energy usage producing these emissions is not particularly efficient, with a return of only 1.4 calories of useable energy in the form of food, for every 10.3 calories of energy inputted. According to the Food and Agriculture Organisation of the United Nations (2012, p. 1) 'food production isn't just using energy, its wasting it [and as a result] undermining the sector's ability to feed the world, perpetuating poverty and undermining efforts to build a more sustainable world economy'. This issue of energy wastage is particularly important in an era of significant energy price instability (Barling, Sharpe & Lang 2008).

One particular aspect of food system energy use, transport, has received significant attention over the last decade (Mckinnon 2010). For example, in an investigation of the environmental costs of the UK food system, Pretty et al (2005) state that the transportation of food is

responsible for a full 28% of all road transport activity in that country. In the US, Hendrickson and Heffernan (2002) point out that the average food item travels more than 2000 kilometres from place of production to place of consumption. However, a growing body of research (Center for Sustainable Systems 2011; Saunders & Barber 2008) has highlighted that the distance a food item travels prior to consumption, also referred to as food miles, is not a particularly good indicator of the products' overall environmental impact. This is because energy use associated with transport is often only a relatively small component of the total energy required to bring a food product to market. Recent estimates suggest transport accounts for between 4% and 12% of total energy consumption within the food system (Center for Sustainable Systems 2011; Weber & Matthews 2008). This complicates any neat assertion that locally produced food, typical of AFS, is necessarily more environmentally friendly than globally sourced food.

Despite the lack of any clear association between how far a food item has travelled and its relative environment impact, authors such as Michael Pollan (Pollan 2008, 2010) and movies such as *The real dirt on Farmer John* (Siegel 2006) and *Food Inc* (Kenner 2008) have highlighted a range of social and economic arguments against food emanating from long distance, industrially operated and corporately controlled food systems. These popular works have raised consumer awareness of the economic and social issues which these authors describe as falling disproportionately on small and medium-sized family farms. Of specific concern, within both popular and academic texts, is the growing domination of a small number of multinational agri-business corporations who control the production of agricultural inputs, and the food manufacturing and retail operations which buy the majority of farm outputs in developed markets (Renting, Marsden & Banks 2003; Scrinis 2007). Stuck between these powerful forces, farmers increasingly find themselves locked into a cost-price squeeze, with rising input prices on one side of their ledgers and falling farm gate prices on the other. The result has been a significant decline in the terms of trade for farmers over a number of decades, including in Australia (Garnaut 2011; Gray et al. 2012). For example it can be seen from Figure 2, that the real value Australian broad-acre farmers receive for their output would have declined significantly over the last half century, if not for increased output as a result improve productivity.

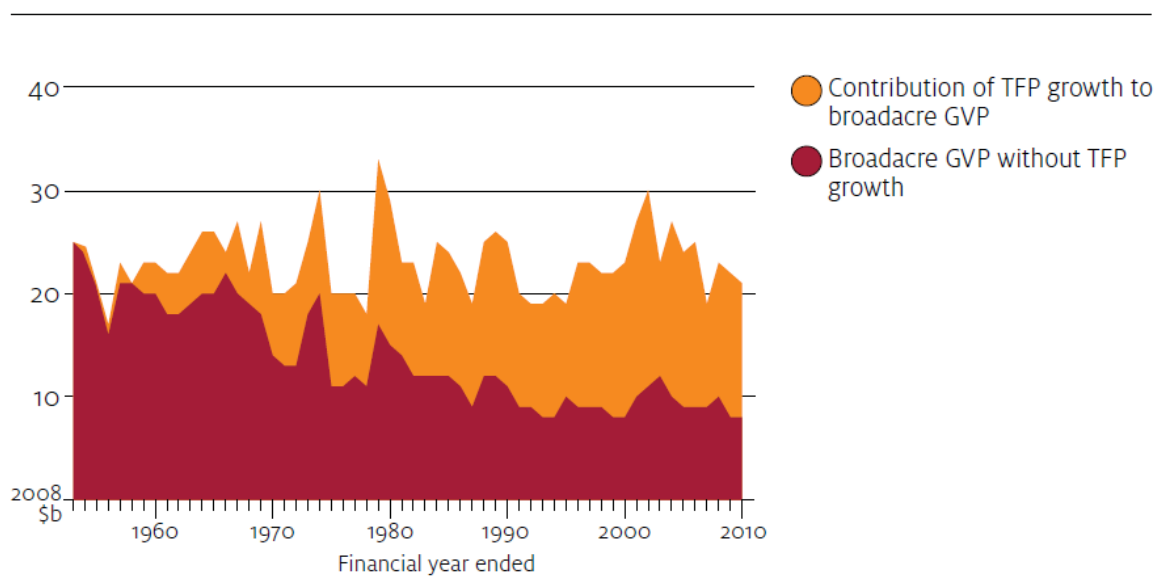


Figure 1: Contribution of total factor productivity growth to the gross value of broad-acre production in Australia, 1952–53 to 2009–10

(Gray et al. 2012, p. 167)

For the majority of farmers, the required productivity gains have been made through scale efficiencies related to increased farm size, as well as continual investment in the latest technology (Australian Productivity Commission 2005; Scrinis 2007). This need to continually invest in new technology to sustain a competitive footing, has been termed a ‘technological treadmill’, upon which only the largest, most capital intensive farms tend to be able to keep up (Scrinis 2007, p. 116). The result has been a reduction in the total number of farm units in many countries, including a 25% fall in the total number of farms in Australia between 1983 and 2003 (Australian Productivity Commission 2005). While some of this land area has gone out of production, the majority has been absorbed into much larger farmer units than existed previously. The trend is evidenced by the fact that the average farm size in Australia has increased by 23% between the years 1983 and 2000 (Australian Productivity Commission 2005). In addition, these larger farms tend to work the land harder, with reduced fallow periods and maximisation of the total area cultivated – often with deleterious impacts on local wildlife (O'Connor 2011).

While these large farm units may be worked very intensively, it does not follow that they are creating more employment opportunities however. Indeed, as farm units have grown larger there has been a concomitant reduction in both agricultural employment and rural populations (Fraser et al. 2005). The partial significance of this loss in rural employment and population

is laid out in a report by the OECD (Shobu 2005), which states that falling agricultural employment and rural population density is significant both in terms of impacts on rural cultural heritage and social cohesion, as well as increasing the per capita cost of critical service provision in rural areas. Additionally, with fewer people directly employed in agricultural production, and with rural communities becoming less socially and economically attractive places to live, there are fewer food consumers with a direct knowledge of agricultural production issues. The extent and potential significance of this lack of knowledge was highlighted by a survey of 550 metropolitan and rural high school students in the Australian state of Victoria, carried out by Mathews and Falvey (1999). According to the results of this survey, metropolitan students hold significantly more positive opinions about the impact of agriculture on the environment. This suggests that as increasing numbers of people move off the land and into cities they are less likely to perceive the negative environmental impacts of agricultural food production, and therefore, are less likely to agitate for more benign alternatives (Princen 1997).

Adding to the difficulties experienced by farmers and rural communities in recent decades has been the increased market power held by a small number of very large food retail businesses. Within Australia for example, two firms now account for around 75% of all grocery sales, while in the US four firms account for just over 50% of the grocery market, and in Canada five firms account for 80% of the market (Cotteril 2006; Food and water watch 2010; Roukhkian & Bardouniotis 2011). As food retailers have grown in size and market power, they have been able to dictate more stringent terms to their suppliers. As a result, food supply chains have become more hierarchical and structured, with supermarkets often leading the chain via preferred supplier agreements. These agreements seek to ensure that only suppliers able to deliver products with highly uniform quality standards, and maximum flexibility in terms of delivery times, retain access to the end consumer. As a consequence, those farms and processors who are not able to consistently meet these requirements have a reduced capacity to sell to the large retailers who account for an ever increasing segment of the market (Henson & Reardon 2005; Vink & Sandrey n.d.).

On the consumption side of the food system equation, the transnational corporate control of food production, distribution and marketing has led to a paradoxical situation in which the choice of food available to people in wealthy countries has been greatly expanded, while at the same time food has become more standardised in order to fit industrial production processes (Finkelstien 2003; Goodman 2009; Ritzer 1998). For many consumers this has



meant that ‘the social functions of food have been radically altered’ in that their diets have become both more diverse and less regionally distinct (Finkelstien 2003, p. 187). Indeed, according to Mennell (2008, p. 254) the ‘diversity of ethnic influences found in cooking and taste of all the richer countries of the world, enmeshed as they are in worldwide foods chains, makes it more difficult to speak of separate national [and regional] culinary cultures.’ Food choices have proliferated for many people, while at the same time the global palate or regional food diversity is diminishing.

According to the Macdonaldization thesis put forward by Ritzer (1998), the ostensible diversity of modern food choices is in fact enabled by a form of economic organisation which promotes homogeneity as the main means of achieving replication at a distance. Discussing what she sees as the dislocating effect of this process, Finkelstien (2003, p. 191) states:

*[W]hen foods are universally available, when they are homogenized and prepackaged, it can be the case that they lose the possibility of symbolizing distinctive social identities. Instead, they generate conventionalized social meanings that serve commercial interests, namely, the successful advertising campaigns that created the Pepsi Generation, Midori crowd, Benetton tribe, and the McDonald's family. Such affiliations and memberships provide a new sense of identity that is detached from local and idiosyncratic influences and is instead sustained by global marketing campaigns, which themselves are developed at a great distance from the locations where these identities are expressed.*

Thus, while popular media is seemingly saturated with invocations for consumers to experiment with and explore an ever growing array of food choices, some authors contend that there is nonetheless a continuing breakdown in the social and environmental connections that link consumers to specific food items, such that Scrinis (2007, p. 122) suggests that ‘a profound *disconnection* from food’ has emerged. This disconnection is both physical in terms of remoteness from the places and acts of production, and it is cultural, in that knowledge is lacking about how and why certain types of food are produced, by whom and at what social and environmental costs (Mathews & Falvey 1999; Princen 1997).

In seeking to describe the processes driving this disconnection, Goodman, Goodman and Redclift (2009) invoke the Marxian concept of commodity fetishism. They suggest the

conventional food system relies upon marketing to impart positive feelings to the consumer, for example feeling sexy or cutting edge, while:

*the conditions and relations of production remain hidden behind commodity and brand fetishes [...] This is the root of the current social and ecological crisis: we are unable to see, in short, we are 'disconnected', from the 'true' consequences of our consumption choices and patterns (Goodman, Goodman & Redclift 2009, p. 27).*

According to this critique, the reduced connection between the great majority of the population and the conditions which underpin food production is not just a problem for rural communities, or governments funding increasingly expensive rural services, but also for the wider human population and the environment. This is because urban consumers are under demanding more environmentally and socially sustainable food due to a lack of connection to the social and environmental processes of agri-food production.

The view that consumers would be deeply concerned about food system dysfunction, if only they had more information, is supported by evidence arising in the immediate aftermath of periodic negative media exposés about the food system. Examples of well publicized food system problems include the 2011 revelation of animal cruelty in a number of Indonesian slaughter houses processing cattle exported from Australia (Doyle & Ferguson 2011), or the episodic and deadly outbreaks of Bovine spongiform encephalopathy (BSE), more commonly known as mad cow disease, in Europe and the United States (Scholten 2006). According to Guthman (2003, p.: 49), the occurrence of such events, or perhaps more accurately, a sudden awareness of them, serves to increase the number of consumers exercising a 'conscious reflexivity' in their food purchasing decisions. That is, consumers begin to increasingly monitor, and consciously reflect upon and adapt their food purchasing decisions on the basis of a range of ethical, environmental and health criteria.

This assertion by Guthman is supported to a degree by empirical data from Scholten (2006, p. 131), who interviewed 104 male and female firefighters in the UK and the US to ascertain their level of awareness and concern in relation to agri-food issues, and what if any coping strategies they employ. These subjects, who were chosen due to their reliance on a quality diet to ensure peak physical fitness and job performance, reported being:

*aware of biodiversity, crop rotation, food miles, organic farming, sustainability and other concepts associated with AFS. Many knew that heart disease, obesity and diabetes are linked to food-borne risks such as cholesterol and sugar, and were aware of media reports of what Morgan et al. (2006, pp. 46, 168) call a 'lengthy series of health scares' including food additives, botulism, pesticides, Alar, rBST, salmonella, 131 BSE, E. coli 0157, GM foods, foot-and-mouth disease, dioxins in cattle feed, and so on.*

As a result of this awareness of negative food related issues, Scholten suggests that consumers have added risk mitigation to their assessment of food quality, and in the process have increasingly prioritised what he calls 'traditional foods' (Scholten 2006, p. 132), such as free range eggs and animal production linked to specific socio-territorial traditions.

According to Scholten, consumers rationalise this behaviour through a belief that these traditional food practices proved safe for previous generations and therefore should continue to be safe now.

Other coping strategies mentioned by respondents include purchasing certified organic food, or food which could be bought via face-to-face contact with the producer. However, while a majority of those fire fighters surveyed preferred local foods (67% in UK and 65% in US) and a sizable proportion bought organic food (39% in UK and 64% in US), it was still not clear to Scholten if this 'new' diet was a stable phenomenon, or if consumers would return to their original dietary habits if media reporting of food borne risk abated. A model of consumer food risk mitigation strategies is developed by Scholten and presented as Figure 3.

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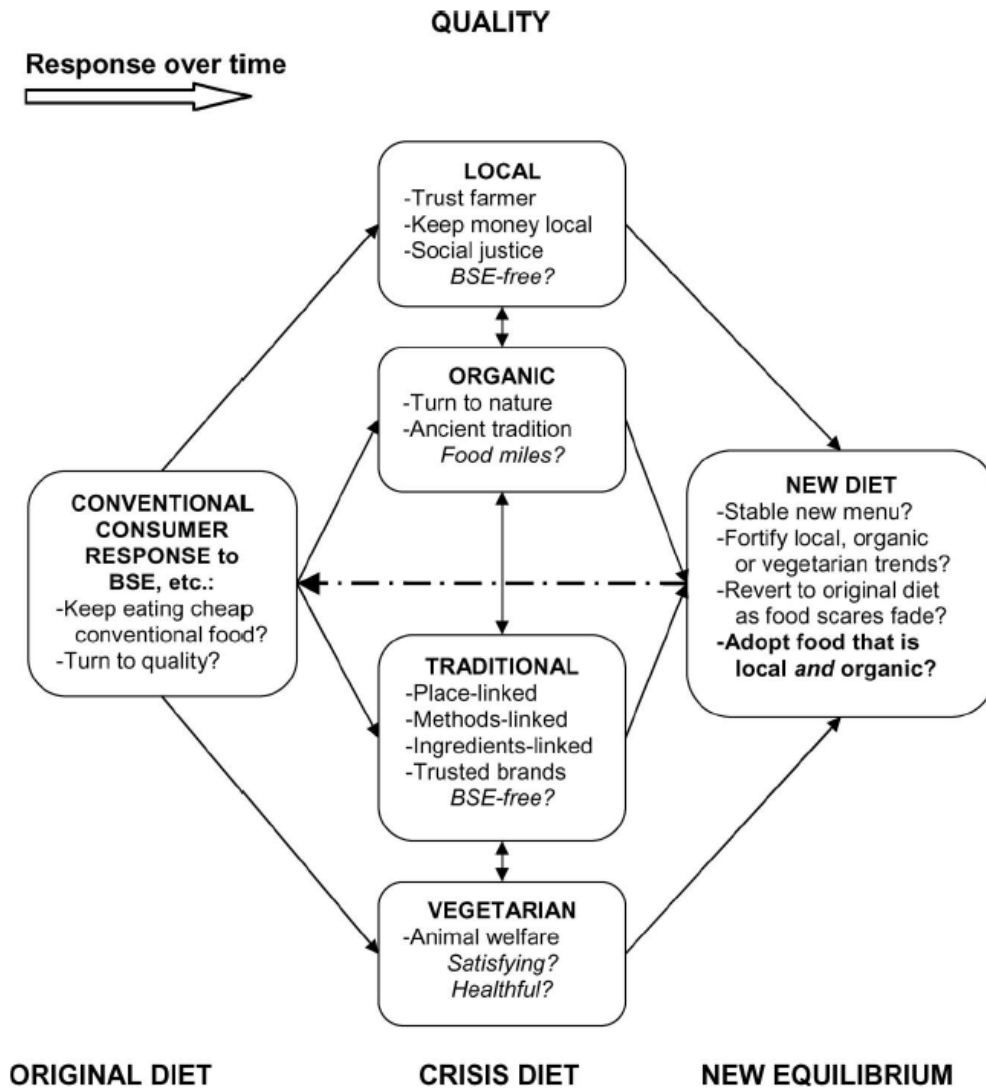


Figure 2: Scholten's model of a risk mitigation diet

(Scholten 2006, p. 132)

A number of larger and more generalizable studies into consumer response to the perception of food borne risk have also been completed, and suggest that to date dietary shifts after individual incidences of food borne risk have tended to be temporary. For example, a nationwide study of changes to Italian meat consumption in the wake of multiple outbreaks of BSE, carried out by Mazzocchi and Lobb (2005), did find a significant shift away from beef consumption toward chicken consumption, especially after a second outbreak of the disease. However, they found these shifts to be temporary and suggest that this is due both to reduced media attention on the issue after a relatively short period of time, as well as changes in demand flowing through to changes in the relative price of beef and chicken meat. Similarly, a report compiled for the United States Department of Agriculture by Kutchler and Tegene

(2006) found that a significant decline in beef purchases immediately after government announcements about a BSE outbreak could be attributed to consumer concern about BSE, but that this decline in demand was relatively short lived, lasting only around two weeks. After the initial announcement, and presumably, news coverage, it appears that many people returned to their previous diet. Thus, while the stability of changes to consumption practices in the wake of food scares related to industrial food production remains questionable, there does seem to be a strong link between the publishing of information about food safety scares and consumer food choices.

This supports the idea that before ‘the *active consumer[can]* fight[...] environmental degradation and pursue[...] the protection of material and immaterial resource and subjective welfare’ (Fonte 2002, p. 16) consumers first need accurate and accessible information which ‘lift[s] [...] the veil of commodity fetishism’ (Goodman 2004, p. 5). Furthermore, if consumers are to transition from one type of food system to another, they require information about where to find suitable alternative means of provision. As a consequence the availability of reliable and detailed information about food products and production processes is seen as an integral component of what are referred to here as alternative food systems.

### **Alternative food systems (AFS)**

For some agri-food studies scholars, particularly those from North America (Goodman 2003; Green & Kleiner 2009; Hendrickson & Heffernan 2002), the significance of AFS goes beyond being just another avenue for purposive consumption. Indeed, there is some support for the view that they are energised political forms of opposition to the wider ‘globalisation project’ (Green & Kleiner 2009, p. 1). These scholars read AFS as not just an attempt to find the ‘cracks in the facade’ of the conventional food system, but as part of a larger movement of alternative socio-economic interest groups arising as part of currently ‘ill-defined bottom-up process’ (Watts, Ilbery & Maye 2005, p. 23). Furthermore, Pollan (2010, p. 1) contends that the heterogeneous interest groups and practices that comprise AFS amount to one of the most significant social movements in the developed world today, what he calls a ‘food movement rising’.

What is being opposed, according to Hendrickson and Heffernan (2002, p. 348) is nothing less than ‘the gradual transformation or colonisation of the *lifeworld* by the same systems logic that governs economic and political interactions and [which has been the most]

significant transformati[ve force] in western society in the late 20<sup>th</sup> century.’ In this conceptualisation, AFS are aligned with other activist networks that are pushing for increased participatory democracy and which include calls for radical socio-economic change such as the ‘bio-regional’ and ‘steady state’ economics proposed by ecological economists such as Herman Daly (1994, 1996). Discussing the role of agriculture in a steady state economy, Daly (1994, p. 271) states:

*Agricultural communities are much healthier and have a greater capacity to survive if they too, even at quite small levels are relatively self-sufficient.*

*[...]The total economy will be more stable if its units are more independent, if its supply lines are shorter.*

The above statement points toward an agri-food system vision, which is a conceptual break away from the dominant agricultural and economic practices of today. Rather than the current focus on comparative advantage and the benefits of trade, this vision prioritises greater economic and agricultural self-sufficiency for local communities and in turn, greater physical and cultural connection between population groupings and the production of their food.

However, for other agri-food studies academics, especially European economic geographers and rural sociologists (Kneafsey et al. 2010; Marsden & Smith 2005; Sage 2003; Sonnino & Marsden 2006) the alterity, or ‘otherness’ (*Alterity* 2012), of AFS is more about finding innovative ways and means of performing the food system differently, the suggestion being that they are ‘a palliative rather than a counter-movement to the dominant agri-industrial system’ (Sonnino & Marsden 2006, p. 192). In this conceptualisation of alterity, AFS do not necessarily need to operate outside of the dominant capitalist markets – indeed few of the empirical examples detailed within the literature, whether European, North American or Australian, are trying to operate outside capitalist forms of exchange, although many AFS may involve significant elements of volunteerism and non-monetary exchange.

One explanation put forward by Jones et al (2010, p. 105) to explain the general conformity of AFS to capitalistic forms of exchange, is that capitalism is not one ‘monolithic structure’, but rather a system characterised by ‘multiple forms and hues’, within which the ‘progressive politics of alterity can come in many scales, locations and guises.’ This sentiment is echoed by Sonnino and Marsden (2006, p. 190) who suggest that what initiates and sustains AFS is the ‘hope of creating a new and durable action-space within the prevailing conventional economic system’. In this more rural development focused reading,

which also prioritises the network aspects of AFS, they become a means to both satisfy the consumer 'turn' to quality food, where 'quality is coming to be seen as inherent in more local and natural foods' (Brunori 2006, p.: 123), but also a means to provide survival strategies for small farmers, rural communities and traditional ways of life (Stuiver 2006).

Regardless of whether AFS are understood as an oppositional or evolutionary force, some common attributes are put forward to describe what is unique about the diverse range of empirical examples characterised as AFS. Chief among these commonalities is the perception that AFS are more 'embedded in a particular locale, in a particular set of cultural, economic, political and social relationships than conventional food supply chains, and therefore more transparent and trustworthy' (Hendrickson & Heffernan 2002, p. 363). For some, this means AFS are necessarily associated with short food supply chains, in which consumers and producers have a high degree of physical connectedness. For example, Venn et al (2006) suggest that AFS can be broken down into four sub-groupings according to the degree of connectedness or interaction between consumers and producers. These four categories are:

- 1) **Consumers as producers:** Food is grown or produced by those who consume it. This category may have low levels of commercial orientation. Examples include: community gardens and allotment groups.
- 2) **Producer – consumer partnerships:** Risk and reward are shared between farmers and consumers through formal or informal agreements. Examples include community supported agriculture (CSA) projects in which a group of consumers contract directly with a farmer to produce food, often solely for their needs.
- 3) **Direct sell initiatives:** Farmers/producers cut out the middleman and sell direct to consumers although on a more ad hoc basis than is the case with CSAs. These relationships can be face-to-face or over the internet, including for example: farmers' markets, farm gate sales, mobile food shops, box schemes and producer co-operatives.
- 4) **Specialist retailers:** Enables producers to sell more directly to consumers than through supermarkets. Often involve high mark-up quality goods: Online grocers, specialist wholesalers and tourist attractions (Venn et al. 2006).

Thus, according to this perception, AFS are alternative to the extent to which they physically connect consumers to the people, the cultures, and the environments that produce their food. For other food studies scholars however, the physically proximity between consumer and

grower/producer is not the critical factor (Fonte 2006; Renting, Marsden & Banks 2003). For example, Renting, Marsden and Banks (2003, p. 400) state:

*It is not the distance over which a product is transported that is critical, but the fact that it is embedded with value-laden information when it reaches the consumer, for example, printed on packaging or communicated at the point of retail.*

Consequently, regardless of whether the emphasis is on direct and proximate relations in the supply chain, or the integrity of the value laden information itself, the effort must be to ensure the products of AFS reach the consumer with clear information about the production and distribution processes still intact.

However, AFS do not have a monopoly on the ability to provide products which convey this type of information. Products which have been produced through industrial means, transported long distances and sold through supermarkets can also be furnished with information which helps the consumer understand the significance of the place of production and the sustainability of the production methods (Fonte 2006). The permeability of the notions of quality that exist between so called alternative and conventional systems of food provision serve to make dichotomous definitions problematic.

### **Challenging the conventional/alternative dichotomy**

The empirical examples used to illustrate AFS within agri-food studies literature are highly variable in terms of their operational characteristics (Kneafsey et al. 2010; Venn et al. 2006). For example, they include direct marketing of local food, such as through farmers' markets (Kirwan 2006; Spiller 2010), community supported agriculture projects (Hardesty 2008) and community owned food retail co-operatives (Little, Maye & Ilbery 2010), as well as organic production methods (Kjeldsen & Ingemann 2010) and international trade in culturally rich, locality foods such as Parmigiano Reggiano cheese (Fonte 2006; Venn et al. 2006). Yet much of the AFS literature does tend to group these diverse systems of food provision together, as occupying one side of an essentially bifurcated food system. The conventional agri-food system is both described in negative terms and contrasted against AFS approaches which are positioned as a form of emerging positive response. This dichotomous view of the food system is neatly summed up by Scrinis (2007) who states: 'In a sense there is a bifurcation of the food system – with mass-produced standardized products on the one hand, and quality,



artisanal and traditional products on the other (p. 118).’ A similarly bifurcated view of the food system is also put by Murdoch and Miele (1999, p. 469) who state: ‘we can assert that the contemporary food sector is bifurcating into two main ‘zones’ of production: standardized, industrialized global food networks on the one hand, localized, specialized production processes on the other.’ Indeed, for some agri-food studies academics, the characteristics of AFS are so removed from the dominant approach to food production, distribution and retail, as to represent nothing less than a ‘new model’ (Fonte 2006, p.: 204) of food system.

Yet, an increasing body of academic engagement with AFS has highlighted the inadequacy of the binary conventional/alternative construct as a way to accurately depict the empirical reality of AFS, particularly in agri-food markets like Australia in which conventional supply chains are so dominant (Andree 2007, 2009). Indeed, many of the AFS case studies examined in the literature do not seek to operate outside of capitalist forms of market exchange, but rather tend to be supply chains, or networks, of innovative small and medium sized for-profit firms, attempting to devise workable strategies in a difficult agri-food sector. For example, Ilbery and Maye (2006, p. 841) conducted an empirical investigation of high quality meat producers on the Scottish border with England, operating through supply chains referred to as short or alternative, and found that they in fact regularly ‘dip in and out of different conventional nodes’, especially when buying agricultural inputs. The producers surveyed by Ilbery and Maye explained their use of conventional suppliers, such as large industrial abattoirs, as necessitated primarily by issues of price and quality, or simply because there was no other option available. Also, Andree et al (2010, p. 370), in their discussion of the development of AFS in Australia, state that: ‘the ongoing dominance of the competitive-productivist, agri-industrial approach to agriculture in Australia is clearly important in framing how farmers engage with, and attempt to develop, an alternative food economy.’ That is, AFS do not constitute a dichotomous ‘new model’ (Fonte 2006, p. 204), but are rather developing in a dialectic relationship with the conventional food system.

However, both Ilbery and Maye (2006) and Andree et al (Andree et al. 2010) conclude that despite this dipping in and out of conventional supply chains, short food supply chains and alternative food networks are different from conventional supply chains in important ways. In particular, due to the reduced number of links in the supply chain between the primary producer and the end consumer the firms participating in AFS tend to retain greater control over their product throughout the supply chain. With this control comes an increased ability

to add and retain value associated with values based quality constructs which appeal to reflexive consumers (Andree et al. 2010; Brunori 2006; Guthman 2003; Ilbery & Maye 2006).

The interrelationship between alternative and conventional food systems is not a one way process either. Instead, where niche markets opened up by AFS have become profitable, such as in the case of organic food in California and elsewhere, large corporate entities associated with the conventional food system have taken an increased interest (Goodman 2009; Guthman 2003). According to Scrinis (2007, p. 113) alternative food products and practices are being ‘integrated back into and come to reflect some of the characteristics of the dominant food chain’. For example, this could include large supermarkets actively marketing locally produced food items, or when intensive industrial agricultural production practices are used to produce certified organic foods (Buck, Gets & Guthman 1997).

These hybridising processes further disrupt the idea of a neat dichotomy between separate conventional and alternative food systems. However, despite the difficulty inherent in dualistic concepts such as alternative and conventional, this study continues to use this terminology, both because this is the language agri-food studies most often uses to describe variable food systems forms, and because it is convenient. This does not mean that this study does not recognise the context specific nature of food systems. In order to better represent this variability, and move beyond a purely dualistic critique, this study employs a theoretical framework based upon conventions theory (Boltanski & Thévenot 2006 [1991]). This theory highlights the role social and economic norms play in helping to coordinate behaviour, and in the process provides a more subtle basis for characterising differences in collective behaviour.

### **Differing conventions of quality in alternative food systems**

Developed by a group of French sociologists and economists in the 1970s, with a central contribution from Boltanski and Thévenot (2006 [1991]), conventions theory seeks to explain how social and economic exchange is coordinated (Biggart & Beamish 2003; Rosin & Campbell 2009). Conventions theorists posit that the standard economic model, which holds that economic coordination is achieved in the market by the combined actions of fully informed, utility maximising individuals, is fundamentally flawed due to the impossibility of complete information. That is, because economic actors cannot know the future in its entirety they can never be fully informed of all possible outcomes, and thus the extent of their rationality is bounded. As such, conventions theory bears a similarity to transactions costs

economics in that it seeks to explain how individuals or collective actors such as the firm, make economic and social decisions in the face of incomplete information (Biggart & Beamish 2003; Boltanski & Thévenot 2006 [1991]).

However, while it bears similarities to transactions cost economics, the unique contribution of conventions theory is its reconceptualization of rationality as something which is dependent on inter-subjective assessment, or as Stark (2000, p. 4), puts it: ‘only possible insofar as it takes place within the boundaries and through the social technologies of particular orders of worth’. That is, while conventions theory seeks to explain the behaviour of actors, including individuals, the explanatory unit is not the atomistic individual but rather a broad range of social structures, from the micro interpersonal level, to firms, regions and nation states, all of which coalesce around durable intersubjective agreements about what constitutes quality, or worth. These agreements, when they become stable, are termed conventions.

At base, conventions, along with related concepts such as habits and routines, are mutual understandings, sometimes codified but often tacit, which serve to orchestrate action in ways that are predictable (Biggart & Beamish 2003). Such understandings help guide interaction between agents, while still retaining some flexibility for individual reinterpretation.

Conventions theorists, such as Biggart and Beamish (2003, p. 444), contend that economic order is a result of ‘socially knowledgeable actors working within collective understandings of what is possible, probable and likely to result in fiscal and social gain and loss.’ They go on to state that ‘conventions are shared templates for interpreting situations and planning courses of action in mutually comprehensible ways that involve social accountability, that is, they provide a basis for judging the appropriateness of acts by self and others.’ Thus, in the face of incomplete information socio-economic actors may not be rational, but they attempt to *appear* rational in the eyes of others and it is this shared symbolism of rationality which serves to make certain acts and practices more predictable. Over time these practices become behaviours which are taken for granted and thus ‘conventionalised’, such that actors do not need to actively calculate their validity in order to benefit from lower coordination costs due to lower levels of uncertainty and risk (Biggart & Beamish 2003; Boltanski & Thévenot 2006 [1991]).

Conventions theory also differs from more structuralist or hierarchical theories such as those posited by political economy, which tend to identify macro level institutional forces such as the State, which encourage and sometime demand particular forms of action, as the prime

coordinating factor. Instead, Biggart and Beamish (2003, p. 449) position conventions theory as a ‘middle range theory’, similar in some regards to network theory. That is, the locus of explanation is somewhere between the atomistic individual and larger scale structural forces. Conventions theory does not disavow the existence of social and economic structures, but supposes that individuals have greater awareness of them and greater capacity to change them than is the case within many structuralist critiques of market coordination, such as political economy (Rosin & Campbell 2009; Stark 2000).

However while the conventions theorists’ view of coordination is less rigid and more open to micro level reformulation than are structuralist critiques, Boltanski and Thévenot (2006 [1991], p. 23) do put forward a limited schema comprising six (and later seven) overarching ‘worlds of justification’ which they suggest are based upon different, but commonly recognised, interpretations of what constitutes the ‘common good’ as described within ‘canonical’ works of political economy. It is by reference to these different ‘worlds of justification’ that individuals and organisation establish ‘orders of worth’ which they then use to calculate and justify the value of products, people and situations (2006 [1991], p. 23). That is, the value of something or someone is ordered by reference to its contribution to the attainment of the ‘common good’, as conceptualised in a particular ‘world of justification’ and described in a particular canonical work.

These different ‘worlds’, as well as the theories Boltanski and Thévenot (2006 [1991]) use to underpin them, are presented here as Table 1.

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Table 1: The six ‘worlds of justification’ underpinning conventions theory

Adapted from Zibell (2010, p. 111)

<b>World of justification</b>	<b>Canonical work</b>	<b>Common guiding principles</b>	<b>Measure of worth</b>	<b>Exemplar of high worth</b>
Market	Smith (1776)	Profit maximisation via the ‘invisible hand’	Profit and wealth	Wealthy people
Industrial	de Saint Simon (1841)	Efficiency, consistency and reliability	Performance against benchmarks	Engineers, social planners
Domestic	Bossuet (1709)	Relationships embedded in social and physical ‘place’	Strong historical and social ties	Monarch, father
Civic	Rousseau (1762)	The welfare of society at large	Democratic process and selflessness	Elected leaders
Fame/Opinion	Hobbs (1650)	Ability to influence others	Number of supporters	Famous people
Inspired	Augustine (1945)	Committed to a goal beyond the self	Creativity, divine grace	Artists, political visionaries

While Boltanski and Thévenot (2006 [1991]) originally only referenced these six worlds of justification they did acknowledge that these may change over time and that actors reference different, sometimes multiple, worlds in different contexts. In line with this evolutionary ability, a seventh world of justification, termed green or ecological, has more recently been recognised to better represent growing awareness of the role ecosystems services play in maintaining the common good (Lamont & Thevenot 2000). Although other researchers have also suggested that rather than amounting to a new world of justification, concerns about environmental issues actually comprise an element of the civic world of justification, as they tend to be motivated by a desire to protect the environmental commons, including for the benefit of future generations (Rosin & Campbell 2009).

By using different interpretations of the common good, the different worlds outlined by Boltanski and Thévenot (2006 [1991]) provide a range of means by which to affirm or

challenge the way social and economic interaction is undertaken. This ability to conceptualise the contested and malleable nature of worth, or quality, has made conventions theory appealing to agri-food studies scholars interested in the development of new or alternative food systems (Gonzalez et al. 2011; Goodman 2009; Kirwan 2006; Lindkvist & Sanchez 2008; Morgan, Marsden & Murdoch 2006; Murdoch & Miele 1999; Rosin & Campbell 2009; Stræte 2004). In particular, conventions theory has proven useful as a means to move beyond a simple bifurcated view of alternative and conventional food systems, to a more nuanced understanding of the way difference is constructed and maintained in socio-economic relationships (Morgan, Marsden & Murdoch 2006).

The utility of conventions theory for this purpose is highlighted by Goodman (Goodman 2009, p. 12), who states that AFS are best understood in the context of an ongoing 'struggle to dominate the material and discursive construction of quality'. That is, what makes these food supply chains and networks alternative, is the different evaluation standards or 'worlds of justification' used to define food quality. Specifically, Goodman (2009) suggests actors, be they individual customers or productive firms, within AFS prioritise conventions of quality linked to the uniqueness of the environmental and social processes present in the place of production. That is, conventions of quality within AFS place a significant emphasis on the domestic world of justification, which holds conventions of localness and interpersonal connection in high regard, as well as the civic and green worlds of justification which are associated with the wellbeing of the broader environment and other peoples (Goodman 2009). The significance of the domestic world of justification is further underscored by Marsden, Banks and Bristow (2000, p. 425) who affirm that within AFS 'emphasis is [also] placed upon the type of relationship between producer and consumer [...] and the role of this relationship in constructing value and meaning'. This prioritisation of interpersonal or domestic relationships can be seen as occurring within farmers' markets which require the producer and vendor to meet face-to-face to conduct their transactions (Kirwan 2006).

Orders of worth from the domestic, civic and green worlds of justification are not the only measures of quality within a food system though. Issues of efficiency, consistency or reliability can and are also deployed in attempts to define food quality (Ponte 2009; Rosin & Campbell 2009). Indeed quality is often constructed in a contested and dynamic process which is touched on by Creppell (2007, p. 145) who states: 'persons move between worlds, in acts of free will, bringing along standards from one world to impose on another, engaging in critique, clashes, and compromise'. This process of struggle and compromise is significant

because the ability to define food quality confers with it the power to ‘delineate competitive spaces, boundaries and markets between retailer-led commodity chains and AFS’ (Goodman 2009, p. 12) In turn, this power to confer quality status, also dictates who is best placed to profit from its provision.

An empirical example of how conventions theory has been used to understand the different worlds of justification employed to construct or challenge notions of quality, is provided by Rosin and Campbell (2009), who examine the struggles over conventions of quality in the New Zealand organic food sector. Rosin and Campbell (2009, p. 41) draw out the range of competing quality conventions that are applied to organic food in New Zealand and position them within the worlds of justification outlined by Boltanski and Thévenot (2006 [1991]) and Lamont and Thévenot (Lamont & Thevenot 2000). The sometimes conflicting quality conventions used within the NZ organic food sector, are identified by Rosin and Campbell (2009, p. 41) within the following worlds of justification:

- Market world

The market world assigns monetary values in the form of wealth for people and prices for things. On the one hand organic is seen as a valid quality designation worthy of price premiums, which increase producer wealth. However, this is challenged by those who suggest that premium pricing detracts from the value of organic food as it makes it an elitist product for an exclusive niche market.

- Industrial world

Within the industrial world of justification, measurable levels of efficiency and consistency are the primary indicators of value. While the development of set standards for organic agriculture has facilitated the involvement of large scale corporate actors, the organic sector still faces difficulty convincing powerful processing and retail actors of its efficiency and reliability. This is in large part due to belief that organic agriculture is more exposed to environmental events and also less productive per labour unit input.

- Civic and Green worlds

Both the civic and green strategies involve a sense of extrinsic worth, in that worth is ascribed according to the extent to which both civic society and the environment at large are positively influenced. Rosin and Campbell (2009) conflate the civic and green worlds of justification in the case of organic agriculture as they suggest that people are an integral

component of the environment in the context of agriculture. In relation to the civic/green worlds of justification, organic agriculture lays claims to quality based on a reduced negative chemical impact, as well as improved nutrition for humans, although they recognise the latter claim is contentious. These claims are contested by proponents of conventional agriculture who suggest that organic agriculture is not productive enough to cater to the global demand for food and would therefore require the use of more marginal lands for agricultural production.

- Domestic world

Value is ascribed within the domestic world of justification on the basis of personal relationships and geographic proximity. That is, consumers are likely to value a product more highly when it is associated with personal relationships, including with the farmer who produced it. Value in this sense may be attributed to the achievement of a higher level of trust in interpersonal relations and also to an altruistic desire to help someone you know. These domestic conventions of quality do not reside specifically with organic food and may be equally associated with conventional agri-food products where interpersonal relations are maintained. However, they are more difficult to maintain when greater physical distance is involved.

- Inspired world

When illustrating the role of inspiration in creating value, Boltanski and Thévenot (2006 [1991]), point to religion as a sphere in which people and things are valued to the extent that they create a sense of transcendence, or creativity, in the service of a higher ideal. In relation to organic agriculture, Rosin and Campbell (2009) suggest quality related to inspiration comes from the extent to which a certain ideal about organic agriculture is met.

- World of renown

The extent to which a product, individual or organisation is of value is also a function of its level of recognition. Thus, the value of a product is held to increase if it achieves popular acclaim, for example, when a famous individual endorses a product. However, this claim to worth is also susceptible to adverse claims from well-known individuals and organisations. The value of renown is most stark in terms of consumer appreciation of organic foods as a high status item. This status is continually contested however, as other food types such as local or pesticide free, become more widely appreciated.



This use of conventions theory by Rosin and Campbell (2009) to examine organic agriculture in New Zealand has enabled them to move away from the problems of bifurcated thinking, and instead, take into account how organic agriculture is constructed by an assemblage of actors appealing to differing orders of worth, or conceptions of quality. This same analytical method was used by Kirwan (2006) to examine the conventions of quality deployed by producers and consumers at farmers' markets within the UK. After conducting in depth interviews with 40 producers at five farmers' markets, as well as focus groups with 37 consumers at the same markets, Kirwan concluded that despite having divergent financial interests, producers and consumers shared significant understandings about what constitutes quality food. Similar to the organic food sector in New Zealand, farmers' market participants in the UK place significant emphasis on justifications related to the civic and domestic worlds of worth (Kirwan 2006).

The idea that different production and consumption processes in different places, such as the organic sector in New Zealand and farmers' markets in the UK, appeal to a similar set of conventions, suggests that different productive and consumption relationships do not rely on an infinite assemblage of quality conventions, but rather on a limited number of convention 'bundles' (Storper & Salais 1997, p. 20). This implies that AFS can potentially be differentiated from conventional food systems by the limited and predictable suite of conventions they use to guide economic behaviour.

## **Worlds of production**

According to Storper and Salais (1997, p. 20), successful production activities, especially those involving multiple firms, stem from a limited number of coherent 'bundles' of conventions which create an economic framework or logic, which allows for an 'efficient interaction' between agents. These bundles of conventions are referred to as 'possible worlds of production' (Storper & Salais 1997, p. 20). Whereas conventions theory is more broadly focused on how conventions coordinate human action in both economic and non-economic life, worlds of production theory is more focused on the role conventions play in coordinating economic production. Therefore, it is useful for the purposes of this study in so far as it moves the theory of conventions more firmly into the realm of economic production, suggesting as it does, that economies have a limited typology of production systems, the actions of which are coordinated through adherence to limited and coherent bundles of conventions (Lindkvist & Sanchez 2008; Morgan, Marsden & Murdoch 2006; Str te 2004).

According to Storper and Salais (1997), the definition of the different worlds of production and how different firms, or networks of firms, align with them depends upon a demarcation between a firm's applied production technology on the one hand, and its market orientation on the other. These two factors constitute what Storper and Salais suggest are the basic elements required to analyse different production and marketing processes. At the most basic and ideal level, production technology is held to take two forms: *standardised* technology, which produces products through known methods which are widely attainable such that competition in markets for the items produced comes primarily to be based on price; while *specialised* technology can only be deployed by a finite group of specialists, and will produce products with significant quality indicators, to the point where price is less significant in competition. In addition to production technology, a demarcation is also made with reference to market orientation. Here a *generic* product is one which has widely understood and appreciated qualities, such that it appeals to a wide range of consumers. In contrast a *dedicated* product has very specific qualities tailored to the needs of an individual or small number of people, such that significant communication between producer and consumer may be required in order to communicate the nature of those qualities. These two axes have been combined by Storper and Salais (1997) to create a model which represents what they call the four possible 'worlds of production' and which is presented as Figure 4.

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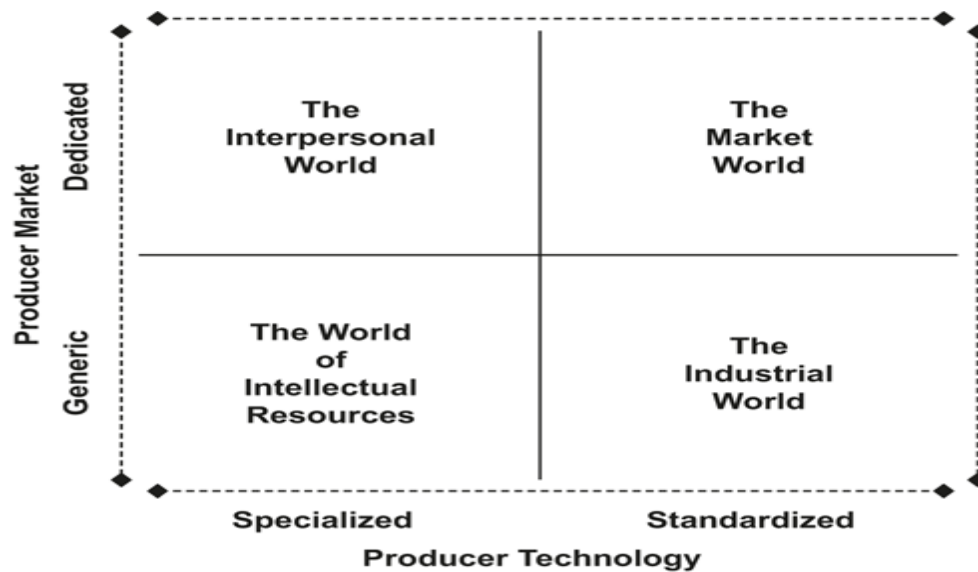


Figure 3: The four 'worlds of production'

(Storper & Salais 1997)

These four worlds of production are described in relation to the agri-food sector by Morgan, Marsden and Murdoch (2006), Gonzalez et al. (2011) and Stræte (2004), with the latter providing agri-food specific nomenclature:

- The industrial world

Standardised production processes produce generic products for a mass market. Examples include fast food restaurants like McDonalds, as well as milk production for consumption. Stræte (2004, p. 230) refers to this as the world of 'mass production'.

- The world of intellectual resources

Specialised production technologies produce generic goods for a mass market. Examples include genetically modified food stuffs, as well as so called functional foods which may include a range of nutritional additives. This is referred to as the world of 'high tech production' by Stræte (2004, p. 230).

- The market world

Standardised production processes create products for dedicated consumer markets. According to Morgan, Marsden and Murdoch (2006, p. 22), this process of valuation is evident in what they call the 'nichification of food products [which] are increasingly

differentiated using standardized technologies such as cook and chill'. This is referred to by Str te (2004, p. 231) as 'industrialized niche production'.

- The interpersonal world

Specialised production processes are used to create dedicated products for small consumer groups. The marketing and distribution of these products is likely to be based on interpersonal, trust based relationships between producer and customer. Artisanal local food and culturally significant 'traditional' foods are cited as examples of food emanating from this world of production (Morgan, Marsden & Murdoch 2006). This is referred to as the world of 'local production' by Str te (2004, p. 231).

The utility of this framework for investigating change in the agri-food sector is acknowledged by Morgan, Marsden and Murdoch (2006, p. 22) who state that 'Storper's theory of productive worlds helps us to make sense of recent trends in the agri-food sector, where mass-market fragmentation (e.g. a growing market world) now coexists with a resurgent specialized sector (e.g. a growing interpersonal world).' Furthermore, the usefulness of both conventions theory and the worlds of production framework for approaching issues associated with change and innovation is highlighted by Str te (2004, p. 231) who state that the:

*model of worlds of production can help to explain how firms have different adjustments depending on their form of technology and market orientation. Product development may involve [a] change[d] [...] world of production, which also includes a change in conventions. From this it follows that innovation includes a break with old conventions and established new ones.*

This ability to not only highlight meaningful differences between individual firms or supply chains, but also how these differences are impacted by innovation, makes it highly suitable for this study, as it explores the impact of e-commerce adoption upon AFS.

## **Growth in AFS meets growing criticism**

As previously stated, there is a range of ways that AFS manifest in practice, including for example, consumer co-operatives, community supported agriculture (CSA) initiatives and the sale of locally and organically grown produce through specialist retailers (Venn et al. 2006). For the purposes of this study however, farmers' markets are taken as emblematic

manifestations of the current state of AFS. Furthermore, it will be shown that their growing popularity makes them worthy of focused consideration.

Farmers' markets are critical enabling spaces within short food supply chains, as they provide physical spaces for local farmers to come together and sell directly to consumers. This enables the farmer, as well as other food producers such as bakers and jam producers, to retain a greater share of the retail value of their products. These direct marketing events also provide consumers with an opportunity to come into direct contact with farmers, thereby increasing their ability to buy information rich local food. According to Kirwan (2004), farmers' markets create alterity within the food system by re-spatialising food through insisting that it is locally produced, as well as re-socialising food by ensuring there is direct contact between producers and consumers.

Despite the fact open air town markets were once the norm in many societies up until the early part of the 20th century, farmers' markets are considered relatively recent economic spaces (Sanderson et al. 2005). The first modern farmers' market in the United States started in Southern California in the late 1970s; while it wasn't until 1997 that farmers' markets were reborn in the UK; and 1999 in Australia. However, since their re-emergence, the growth of farmers' markets has been rapid in many countries. For example, in the US the number of farmers' markets grew by 17% between 2010 and 2011 (US Dept. of Agriculture 2011).

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Figure 4: Number of operating farmers' markets in the United States of America  
(US Dept. of Agriculture 2011)

The first modern Australian farmers' market commenced operating in Sydney in 1999. By 2004, 70 farmers' markets were in operation across the country, and by 2011 this number had increased to more than 150 (Adams 2011). In Australia, the growth in the number of farmers' markets has been attributed to the combined work of a number of grass roots community groups and not-for-profit organisations such as the Victorian Farmers' Market Association, often with the support from local and state governments. While sales from individuals markets may not be large, the cumulative total sales from farmers' markets (and other open air retail markets), has grown to the point where by 2010, they accounted for 7% of all fresh fruit and vegetables retailed in Australia (McKinna 2011).

However, at the same time as popular enthusiasm for alternative means of acquiring food, such as farmers' markets, has been growing, so too has academic concern that such systems of provision may not be the benign and emancipatory economic spaces described by some academics and many activists (Doherty 2006; DuPuis & Goodman 2005; Goodman 2009; Hinrichs 2000). Instead, Doherty (2006, p. 2) suggests these alternatives may have a distinctly different hue as: 'a socially and economically exclusive movement for white,

middle class participants'. In discussing the reasons for this exclusivity, Goodman (2004) points out that the promotion of the local as a spatial scale within popular and academic discourse around AFS tends not to allow for the socially constructed, and often socially contested, nature of the local. Further, Goodman suggests that some AFS literatures gloss over the particularities of the diverse socio-economic characteristics of many local populations, only referring to them in homogenised and abstract ways, using terms such as affluent consumers, or discerning customers. Making a similar point in relation to local food systems, Hinrich (2000, p. 301) states that too often 'spatial relations are conflated with social relations' and in so doing, the local as a scale becomes 'reified' and closed off from closer critical examination. Thus obscured, local food systems may not so much offer emancipatory alternatives to the claimed malfeasance of global agri-food businesses, as much as simply transfer agency to a 'narrow, sectionalised and even authoritarian elite' at the local level (DuPuis & Goodman 2005, p. 360).

It is not just places which can become reified and closed off from critical inspection within the alternative food movement, but also food items themselves. According to Young (2012, p. 9) much discussion of food amongst 'foodies' tends to lead to a situation in which 'thinking is ditched for oversimplified 'authenticity''. For example, in relation to the concept of heirloom vegetables, he states:

*Who needs to reflect on ethics and politics when one's gut contains digested heirloom potato? [...] Taste is turned into fetishism. Even if eaten in a middle class townhouse by an otherwise brutal advertising executive, the potato is invested with all kinds of arcane powers and ancient histories.*

That is, certain foods have become invested with concepts which impart positive feelings upon the consumer, despite a lack of reflection as to the reality of those claims.

Furthermore, while alternative food system manifestations like farmers' markets are becoming more common, Goodman (2009) suggests participation is still highly unequal. Reasons put forward by Goodman (2009, p. 14) to explain this uneven access include:

*markedly higher prices, the time-space commitments needed to acquire and prepare these alternative and local foods, and the associated food knowledge's involved strongly suggest that significant levels of economic and cultural capital are required to gain access to these provisioning systems.*

The net result of this lack of access is an increasingly stratified food system in which only highly privileged consumers can participate in the move toward 'good food' (Sage 2003, p. 1) as defined by AFS.

Of course, it may be unreasonable to think there can be a significant effort to restructure systems of food provision and place them on a more sustainable footing, without also creating new economic winners and losers in the process. For example, given the cost-price squeeze and the resultant falling terms of trade for farmers in the conventional system, it is perhaps not surprising that the AFS literature asserts a new 'privileged' role for farmers, as actors strategically positioned to extract higher income flows (Goodman 2004, p. 7). However, there is less engagement in the literature as to whether this should, or will, flow through to higher prices for consumers, and if so, how different consumers will be affected. However, the frequent assertion that the reflexive AFS consumer is predominantly interested in quality suggests products from AFS will attract premium prices. This is despite the fact that for many consumers, rightly or wrongly: 'price and convenience are the two primary factors driving [the choice of] where to shop for food' (*Roukhkian & Bardouniotis 2011, p. 17*). This price sensitivity on the part of many consumers may be at odds with efforts by farmers to capitalise on their privileged position within AFS.

Neither is consumer sensitivity to the price of food uniform; rather it is strongly related to income. While people on low incomes spend a smaller total amount on food, they spend as much as twice the proportion of their household income as do wealthy households (Barnard 1999; Holland & Ewalt 2006). Consequently, people on low incomes are more sensitive to price premiums, although this does not mean that they do not seek or obtain healthy and nutritious food (Barnard 1999). According to both Goodman (2004) and Mennell (2008) one of the greatest achievements of the conventional, industrialised food system has been the lowering of food prices such that access to enough calorific energy is now generally available to most people in developed countries. Indeed, Mennell goes further to suggest that the modern era has been unique in that 'enjoyment of food – and, moreover the opportunity to enjoy it – appears to be spread more widely through the ranks of society than it ever was before' (2008, p. 258).

However, with the growth of AFS as they are currently structured, Goodman (2004, p. 17) warns that 'this process [of improved food access equity] is in danger of being reversed and further fragmented by the emergence of a new multi-tiered food system differentiated by



income and class.’ While differences in income will likely always lead people to demand different qualities of food, the income and class based exclusionary potential of AFS, is seldom mentioned by activists or scholars (Goodman 2004, 2009).

Varying opinions about the importance of more equal access to AFS mirror the range of different academic theories and popular opinions concerning distributive justice more generally. According to Lamont (2012b, p. xi), distributive justice is concerned with ‘the morality of the distribution of economic goods and services’. Libertarian interpretations of distributive justice view varying levels of purchasing power, especially for discretionary goods, as the natural outcome of varying levels of effort on the part of individuals, and therefore as a just ‘dessert’ for effort (Lamont 2012a, p. 363). That is, according to a libertarian interpretation the economic exclusivity of AFS is not a problem because those people who can afford access have earned that privilege through their own industry.

However, if the claims of AFS supporters, including some academics (Barling, Sharpe & Lang 2008; Feindt & Marsden 2009), are to be believed and the output of AFS is less discretionary luxury good and more necessary precondition of a more sustainable future, then distributive justice theories which cite *need* are relevant. This is because statements which claim ‘today’s food and farming economy is unsustainable [...] [and] can’t go on in its current form much longer without courting a breakdown of some kind, whether environmental, economic, or both’, presuppose that alternative food systems, are to a degree inevitable (Pollan 2010, p. 1). Given the inviolable physical necessity of food for every individual, needs based interpretations of distributive justice suggest proponents of AFS must contend with the implications of the commonly held view that all individuals have a right to an adequate supply of food. Such a right to the basic human needs is according to Copp ([1992] 2012, p. 516) justified as a prerequisite of an individual possessing ‘rational autonomy’. That is, without adequate food a person cannot be free in any real sense and as such any proponents of food system change, including proponents of AFS should address issues of access equity as a matter of moral imperative.

A small number of researchers have recognised this need and have conducted empirical studies investigating the demographic profile of consumers obtaining food through AFS. These studies have largely been focused on farmers’ markets in the United States and Canada. While not uniform, results have tended to show that typical farmers’ market customers are female, university educated and earning an above average income (Abel, Thompson &

Maretzki 1999; Kezis et al. 1998; Wolf 1997). For example, a study by Kezis et al (1998, p. 93) found that 21.3% of farmers' market shoppers had an annual income of \$60,000 or more, as opposed to only 11.1% of the general population. The same study found that 35.7% of farmers' market shoppers surveyed had a post graduate qualification, as opposed to 8.2% of the general population.

In addition to the premium pricing of food in AFS manifestations such as farmers' markets, issues of convenience are also likely to have an economic impact on the shopper. The claim that farmers' markets are in fact relatively inconvenient is supported by a survey of 336 farmers' market customers in the United States (2005), which found that the inconvenience associated with both the distance required to travel to the market, and their relatively brief and infrequent opening hours, were the most negative aspects reported. The fact that this type of inconvenience has a significant impact on shoppers is explained by Zapeda and Li, who state that:

*indirect search costs may overshadow monetary costs. If one shops regularly at a store that features local food, the search cost is minimal. However, local food may not be available at one's regular shopping venue; it may require a special trip to a farmers' market, farm stand, or health food or other store that promotes local food (2006, p. 4).*

Furthermore, these costs are likely to have a disproportionate impact on people with low incomes, as they are more likely to 'live in places without good retail markets or [...] lack transportation' (Anderson 2007, p. 3). As such, the perceived congenial social atmosphere at farmers' markets may take on a different dimension when considered from the perspective of someone who has struggled to visit such a place only to find they cannot afford the food sold there.

However, there is evidence to suggest farmers' markets advocates are at least aware of these access limitations. For example, the proceedings of the United States National Farmers' Market Summit held in 2008 (Tropp & Barham 2008) states that access issues go beyond product pricing and also relates to the concentration of farmers' markets in relatively affluent locations. Given that individuals on low incomes are more likely to depend on public transport, which is less frequent on Saturdays when most farmers' markets are held, this is significant impediment to attendance (Tropp & Barham 2008). Additionally, low income

individuals are more likely to be casually employed and work multiple jobs, and therefore have less control over their time (Pocock 2009). When combined, issues of low income, inadequate transport options and lack of time are significant hurdles for many people who may otherwise want to attend farmers' markets. Similarly, buying local food through a range of other AFS, such as community supported agriculture schemes and consumer food co-operatives, requires a significant investment of time, often through volunteerism, which may not be viable for many consumers (Zapeda 2009).

Given these class and access related issues around the price and convenience of AFS, including farmers' markets, questions need to be asked about exactly how socially just and how sustainable these AFS really are. The need for concern is highlighted by Doherty (2006, p. 3) who states:

*If [alternative food as it is] currently operationalised and understood is only available to a subset of the population, it should not be allowed to parade itself as 'democratic and socially just' (Allen, 1999). Secondly, as [AFS] take centre stage as the means whereby communities rather than individuals are to become more food secure, it is imperative that such a fundamental need be broadly accessible.*

The issue of accessibility is also touched on by Guthman (2007, p. 263), although not with much optimism, when she reveals that while she takes her 'personal eating choices seriously', shopping almost exclusively at farmers' markets, she does so 'more as [a] way[...] to opt out, than as a road to change'. That is, while she personally applauds AFS developments and gives them her custom, she does not conceive of them as truly alternative to the conventional food system in the sense of being capable of one day feeding the majority of the population.

Indeed, of those agri-food studies scholars who are conscious of the potential for AFS to become exclusionary and even elitist, there remains a division as how best to make AFS more accessible (Allen 2010; Brunori 2007; Guthman 2004). Some agri-food scholars, like Julie Guthman and Patricia Allen, who write from a political economy perspective, see moves to expand AFS as unlikely to meet the needs of disadvantaged consumers. Instead they claim such expansion makes AFS susceptible to neoliberalising forces, via a process Guthman (Buck, Gets & Guthman 1997; 2004) terms conventionalisation. Although not supportive of the theoretical argument, Lockie and Halpin (2005, p. 284) state that the conventionalisation thesis describes 'a process through which organic agriculture [and AFS more broadly] comes

increasingly, as it grows, to resemble in structure and ideology the mainstream food sector it was established in opposition to.’ An example of the conventionalisation process is provided by Buck, Gets and Guthman (1997) who observe that within California, the growing demand for organic food from supermarkets has prompted large, highly specialised production units to start producing organic crops. However, unlike smaller organic units which traditionally relied on crop diversity to manage issues such as pest control, these highly specialised farms are heavily reliant on off-farm inputs. Furthermore, the efficiency of these large specialised farms has reduced the wholesale price for the crops they produce, which in turn means these crops are less economically viable for farms wishing to carry out traditional organic methods with high levels of mixed cropping. Thus, while the expansion of AFS may provide greater access through reduced prices associated with increase scale and specialisation, according to the conventionalisation thesis, what is accessed comes increasingly to resemble the problematised conventional system.

Conversely, other researchers and AFS advocates see a need to expand the reach of AFS both in terms of the consumers who access them and the producers who service them (Brunori, Guidi & Rossi Forthcoming; Hardesty 2008; Little, Maye & Ilbery 2010). For example, a desire for expansion is expressed by Little, Maye and Ilbery (2010, p. 1810) who state:

Although these alternative [food provision] strategies are increasingly popular, they still serve only a small percentage of the population and remain within the niche market. [...] We have argued that there needs to be an attempt to widen the focus to recognise more inclusive and diverse food economies (Little, Maye & Ilbery 2010, p. 1810).

Exactly what strategy AFS participants might take to expand is unclear however. There have been examples in Europe in which networks of small firms producing food with a historically and culturally significant connection to a particular locality have formed mutually beneficial relationships with supermarket chains operating on a national level (Fonte 2006). Institutional food buyers such as hospitals and schools have also been put forward as an avenue through which AFS might grow (Hardesty 2008). Yet in both these examples, the authors still express concerns about the ability of AFS producers and consumers to successfully engage within these larger markets, while still maintaining those alternative social, environmental and economic quality conventions with which they are associated.

The problems experienced by small niche firms attempting to service larger markets, including on the basis of price, is not something unique to firms within AFS. Rather, there are influential theories in the wider business strategy literature (Porter 1980) that highlight the problems associated with mixing niche and mainstream marketing strategies more broadly. Significant questions still remain about the mechanism which may enable this shift to a larger market, and how such a shift may impact upon the bundles of conventions currently employed by AFS.

### **A theoretical model of the conventionalisation process**

Information presented in this chapter has shown that alternative food systems (AFS) have emerged as an important topic of discussion in agri-food studies and that significant social, environmental and economic benefits have been ascribed to these novel systems. However, not all engagement with AFS has been entirely positive; with some scholars pointing out that these alternatives tend to serve a relatively narrow section of the population. Despite support for expanding access to AFS, including addressing the issue of prohibitive pricing and convenience, some prominent business strategy theories would suggest this may be problematic from the prospective of firm level competitive strategy (Porter 1980).

In his seminal 1980 work *Competitive Strategy*, Porter states that managers will achieve the best commercial results if they adopt only one of the following strategic orientations:

- **Cost leadership**

This requires the firm to aim at becoming the lowest cost supplier within a given market at a given level of quality.

- **Differentiation**

Requires the firm to differentiate their product such that consumers perceive it has added value compared to other products in the market and will therefore pay more for it.

- **Focus (niche market segmentation)**

Firms concentrate on a very narrow section of the market in order to deliver a highly tailored product or service to that market segment. Within this small market segment the firm should then concentrate on either cost leadership or product differentiation.

Table 2: The four strategic orientations according to Michael Porter's theory of generic strategy

Target Scope	Advantage	
	Low Cost	Product Uniqueness
<b>Broad Industry Wide</b>	Cost Leadership	Differentiation
<b>Narrow (Market Segment)</b>	Focus (Cost leadership)	Focus (Differentiation)

According to this theory of generic strategy, a firm should only try to compete on the basis of one of these strategies. The worst option according to Porter is to be 'stuck in the middle', trying to pursue more than one strategy. Such a position is not advantageous because firms pursuing only a cost leadership strategy will be more likely to be able to offer lower prices, while firms concentrating on differentiation will be more likely to be able to offer more unique products with higher perceived value.

It is suggested here that most firms involved in AFS are actually small firms pursuing a differentiation strategy generally within niche markets. Businesses engaged in AFS tend to be small and therefore unable to compete as cost leaders in the mass market via economies of scale. Nor can they individually muster sufficient supply to service a mass market with a straight differentiated strategy. As a result most AFS firms focus on niche markets with customers that demand a unique mix of quality conventions, particularly as they pertain to the domestic, civic and green 'worlds of justification' (Boltanski & Thévenot 2006 [1991]). This point is emphasised by Little et al (2010, p. 1798) who state:

*[...]A complex mix of motivations [...] have worked together to fuel the growth of AFS. Crucially, the attachment of additional criteria is fundamental to the creation of purposive acts of consumption that go beyond the purely price based choices.*

Yet, given the sensitivity of many consumers to issues of price and convenience, there is merit in Doherty's (2006, p. 3), assertion that 'it is imperative that [AFS] be broadly accessible if they are to parade themselves [...] as socially just.'

If such attempts at broadening the accessibility of AFS involve engagement in more price based competition, Porter's demarcation of generic strategy would seem to pose some

problems. Specifically, if firms participating in AFS are currently surviving as a result of a focus/differentiated strategy, Porter's theory suggests it would be ill advised for managers to also attempt to attract more customers through differentiation aimed at the industry wide sector, or by placing concerted effort into price based competition. While either change in strategy could be construed as an attempt to make AFS more broadly accessible, it would, according to Porter, leave them stuck in the middle and therefore commercially vulnerable.

However, while Porter's theory of generic strategy has proved influential, it is not without its critics (Bowman 2008; Chrisman, Hofer & Boulton 1988). In particular, it has been argued that Porter's central thesis, that firms must choose between either a cost leadership strategy or a differentiation strategy is a false choice, and that in fact many firms do successfully combine these strategies (Bowman 2008; Chrisman, Hofer & Boulton 1988) Indeed, Bowman (2008, p. 4) states: '[it can] be argued that firms need to be simultaneously differentiated and low cost. Evidence shows that this is possible, and at some point, even in the luxury saloon car market, you will be competing on price, so low relative costs are a necessity.' This assertion is backed up empirical research by Eonsoo, Nam and Stimpert (2004), which found that in the e-commerce environment in particular, rather than leaving a firm 'stuck in the middle', mixing product differentiation and price based strategies is actually the most advantageous orientation, while segmenting markets into niches becomes a uniform imperative rather than a third strategic option.

This is significant as it suggests that firms within AFS pursuing a niche differentiation strategy are likely to make investment decisions, including the adoption of innovations such as e-commerce, at least in part on their ability to improve their price based competitive position. In turn, this implies that AFS may become more accessible to a larger range of consumers if innovative means of reducing prices become available.

Indeed AFS, understood as novel assemblages of both products and services, can be considered a form of innovation in and of themselves. As such, any transition from a high cost product or service occupying a small niche market to a lower cost product or service selling into mainstream markets, may be understood as a usual part of the product (or industry) life cycle. That is, they can be understood as innovative products or industries, which if successful, will become increasingly a part of mainstream consumer demand. According to Day (1981) all successful innovations go through a sequence of stages analogous to a biological lifecycle.

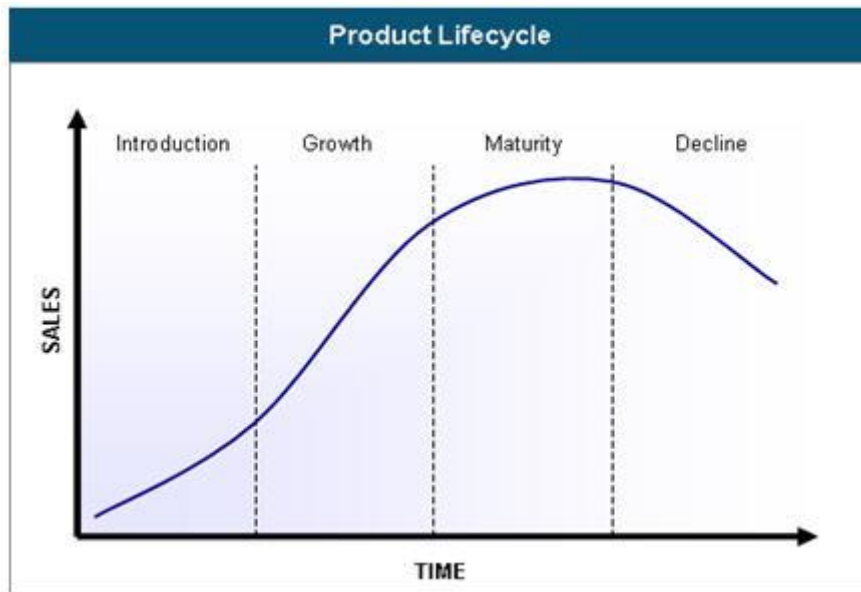


Figure 5: The product lifecycle

(The Plexius Group 2012)

The four stages of the product life cycle shown in Figure 6 are understood to have the following attributes (Day 1981).

- **Introduction:** During the introduction phase, costs tend to be quite high and sales volumes low. In part due to low levels of profitability there is little competition between firms at this stage.
- **Growth:** During the growth phase economies of scale lead to cost reductions, increased sales and increased firm profitability. More consumers become aware of the product and new competitors enter the market putting moderating pressure on prices.
- **Maturity:** Increased production volumes and increased experience levels combine to further reduce production costs. Sales volumes peak as market demand becomes saturated. Competition continues to increase forcing more downward pressure on prices.
- **Decline:** Sales volumes begin to decline as do prices and firm profitability.

While the product lifecycle was originally developed with reference to industrial manufactured goods, such as automobiles, the theory is now more broadly used, with authors such as Yoo (2010, p. 646) maintaining that '[e]mpirical research has confirmed that many, if not most, product markets follow the pattern predicted by product life cycle theory'. As



previously mentioned, AFS incorporate both the production, sale and consumption of tangible food products, as well as the production, sale and consumption of more intangible services; such as the delivery of rich product information; such as when a farmer is available for direct contact with customers at a farmers' market. According to Gusumano, Kahl and Suarez (2006) the applicability of the product life cycle theory to service industries is not well researched. However, this study adopts the common definition of a 'product' as being 'a bundle of need-satisfying tangible and intangible attributes offered to a buyer by a seller' (Product 2013) and therefore as incorporating services. Given this definition and the statement by Yoo (2010), that the product life theory is applicable to most product markets, it is here applied to AFS.

Unlike Porter's generic strategy theory, which has no way of explaining how a firm might transition between different strategies without risking becoming 'stuck in the middle', the product life cycle theory is explicitly transitional. That is, all successful product innovations are expected to transition from the introduction phase, in which prices are high and customers are few, through to the maturity and decline phase, where the market is wide and prices declining (Day 1981; Gardner 1987). The life cycle theory is not without its critics either though, and Day (1981, p. 60) suggests that while the model has 'considerable descriptive value' it is too simplistic in nature to provide predictive power or prescriptive guidance for management strategy. Despite this lack of predictive power, the life cycle theory does suggest, unlike Porter's generic strategies theory, that AFS which currently provide niche/differentiated products, may evolve to become more price focused and 'mainstream'.

This trajectory seems to be foreshadowed by some authors who have suggested that the 'alternative [food] networks of yesterday may be [the] dominant networks of tomorrow (Brunori, Guidi & Rossi Forthcoming, p. 3)'. In relation to this process of innovation adoption Rossi and Brunori (2010, p. 1914) state:

*The concept of 'niches' is suitable to understand the development of AFS and their 'transformative role'. The carrying out of alternative provision-consumption practices entails deep cultural, social, organisational and technological changes. It indeed looks as a radical innovation process, involving deep changes into knowledge and values systems, techniques and infrastructures, rules, codes, organisational patterns. A process that firstly entails, within specific actor-networks, the socialization of new meanings*

*attached to food and, then, the removal of social and material constraints (of knowledge, technical, regulatory, organisational, social nature). So doing, it moves towards a real reconfiguration of the dominant socio-technical system.*

In this conceptualisation, AFS will expand to cater for a wider audience to the extent they influence and change the conventional food system through a process of innovation adoption, similar to that understood to occur when a successful new product or industry moves through the stages of the product lifecycle (Gardner 1987).

However, some agri-food studies authors caution that this process of innovation transfer and adoption will inevitably impact negatively upon the practices of AFS, including diluting the normative ideals upon which they were developed, in a process referred to as ‘conventionalisation’ (Buck, Gets & Guthman 1997). That is, according to the conventionalisation thesis (Buck, Gets & Guthman 1997; Guthman 2004), the initial success of small alternative producers in niche markets has led to a situation where:

*most high-value crops and the most lucrative segments of organic commodity chains [are] being appropriated by agribusiness firms, many of which [are] abandoning the more sustainable agronomic and marketing practices associated with organic agriculture. [...] [A situation which] undermine[s] the ability of even the most committed producers to practice a purely alternative form of organic farming (Guthman 2004, p. 301).*

One way of understanding this process of co-option of the most profitable parts of AFS by larger agri-food firms is to consider their relative strengths when it comes to innovation. While there is little consensus as to whether larger firms or small firms are more innovative overall, there is more agreement about their relative advantages when it comes to innovation.

Rothwell (1989, p. 52) states:

*The innovatory advantages of large firms are in the main associated with their relatively greater financial and technological resources, i.e. they are material advantages; small firm advantages are those of entrepreneurial dynamism, internal flexibility and responsiveness to changing circumstances, i.e. they are behavioural advantages.*

Therefore, while small firms operating in niche agri-food markets may pioneer profitable new supply chains, based largely on innovative behaviours, their ability to enjoy these markets may be reduced by large firms which attempt to use their material resources to replicate them on a larger scale. This can be seen for example where a large firm replicates only those elements of an innovation which can be codified and regulated, 'in order to provide a predictable and stable platform for investment' of material resources (Lockie & Halpin 2005, p. 286).

Here worlds of production theory is useful for understanding how changes in firm orientation may occur as a result of developing and/or adopting new products and productive processes. According to Stræte (2004, p. 231):

*Product development may involve change of world of production, which also includes change in conventions. From this it follows that innovation includes a break with old conventions and establishing new ones.*

This suggests that where successful, innovative products and industries such as those associated with AFS, can indeed bring about 'deep changes' (Rossi & Brunori 2010, p. 1914) in individual firms and/or inter-firm organisational patterns, such that it would constitute a complete change from one world of production to another. Yet many, although not all (Lockie & Halpin 2005), examples given within the AFS literature tend to emphasise the conventionalisation of AFS from the domestic world of production, to the market or industrial worlds (Fonte 2006; Goodman 2009; Guthman 2004). According to Goodman (2009, p. 12), an example of this practice is evident where: 'Corporate food interests, notably supermarket chains, [...] have responded to the new constructions of quality, and particularly the marketing focus on provenance and traceability, by developing own-label, locally-sourced product lines and quality food brands.' Thus supermarket chains have been able to leverage value by reference to certain quality constructs which come from the domestic world of production. However, those quality constructs they do deploy tend to be those that are easily codified and communicated to a mass audience, for example organic food, the quality parameters of which have been codified through third party certification and labelling schemes (Goodman 2009; Lockie & Halpin 2005; Rosin & Campbell 2009).

Thus, it seems there is potential for AFS, understood as an assemblage of successful product and process innovations, to move from high cost niche marketing to more price based

marketing to a mass market. However, because ‘different forms of qualities put different demands on the food network in terms of handling and mediat[ion]’ (Noe & Alroe 2010, p. 13), not all quality conventions are retained in the mass market. According to Goodman (2009, p. 19), so far the result of this process has not been deep change in the conventional system, but rather a ‘diluting and disempowering [of] the counter-narratives and imaginaries of ‘local’, ‘organic’ and ‘quality’ foods’. That is, as AFS have become successful, larger firms have been able to use their greater material resources to replicate certain quality conventions, and appropriate the value associated with them, while discarding other quality conventions, which are less amenable to mediation and handling through industrial and market processes.

This process is depicted in Figure 7, with selected ‘worlds of justification’ (Boltanski & Thévenot 2006 [1991]) used to represent the different types of quality assessments consumers make for different products; while Storper and Salais’ (1997) more production focused ‘worlds of production’ are used to represent firm behavioural norms associated with different generic strategies as defined by Porter (1980). This model suggests that as products move through the product lifecycle, firms will employ different strategic orientations, such as niche marketing, or mass market product differentiation, which change both the world of production they operate within, and the world of justification consumers use to assess the products merit. This framework is both useful for this study, as well as being theoretically novel, in that it provides a means of discussing AFS in the language of the mainstream competitive strategy literature, while also integrating Boltanski and Thevenot’s worlds of justification with Storper and Salais’ worlds of production. The outcome is a theoretical framework which enables learnings from the business management literature, particularly as it applies to e-commerce, to help understand the drivers of AFS accessibility, while retaining the ability to discuss those quality assessment parameters which make AFS unique.

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	<b>Niche Market Segmentation</b>	<b>Mass Market Differentiation</b>	<b>Mass Market Price Leadership</b>
<b>Consumers (Worlds of Justification)</b>	Civic/Green, Domestic	Market	Industrial
<b>Producers (Worlds of Production)</b>	Interpersonal	Market	Industrial

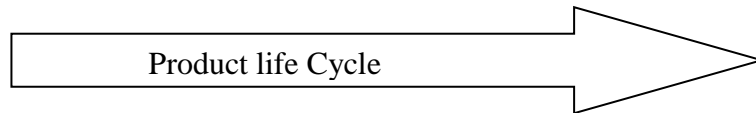


Figure 6: Hypothesised model of the AFS conventionalisation process

In this model only those worlds of justification and worlds production most relevant to economic activity generally and AFS specifically are included. For example, the model does not include the ‘worlds of intellectual resources’ which characterise the use of high technology production methods for generic markets, as previous studies have not found this production approach to relevant to AFS (Gonzalez et al. 2011; Str te 2004). Similarly, the worlds of ‘fame’ and ‘inspiration’ have been omitted as less relevant to AFS consumer quality conventions, than the ‘domestic’, ‘green’ and ‘civic’ worlds of justification.

This model is essentially transitional in nature. When a product is successful, it is held to move through the product lifecycle, with firms and consumers using corresponding and evolving conventions of quality assessment. It further suggests that the competitive strategy employed by firms is directly linked to the world of production they operate within, and the world of justification consumers use to assess product quality. In niche markets, producers engage with consumers on a highly interpersonal level with significant information flow between consumer and producer, such that both consumers and producers are able to understand a myriad of complex quality attributes. This enables producers to communicate the benefits of a particular product quality attribute even where the benefit may not accrue directly to the consumer, but rather provide benefits to external parties such as local farmers and the community generally, such as through improved environmental outcomes. However, as a product becomes more popular and is made available to a mass market, the ratio of consumers to producers grows and necessarily interactions between producer and consumer becomes less personal and less information rich. As such, consumers increasingly focus on qualities they can personally discern, including price and product utility. This is not to say that firms do not market on the basis of intangible product qualities in the market world, but

rather that price and consumer experienced product utility become significantly more important. Where intangible elements are highlighted in the market world, benefits are more likely to accrue to the individual consumer – as is characteristic of the market world of justification in which, according to Boltanski and Thévenot (2006 [1991], p. 202), there is a level of ‘indifference to all the qualities that are foreign to those of buyer or seller’. The final phase is where the production and comprehension of key product attributes is distilled to the point where industrial quality attributes such as consistency, efficiency and low cost become the primary concerns of both buyer and seller, at which point they can be readily communicated to large numbers of people, with little requirement for rich information flow given that generic nature of both the product and consumer demand.

As stated, this model provides a means of integrating the ‘worlds of justification’ developed by Boltanski and Thévenot (2006 [1991]) with the ‘worlds of production’ of Storper and Salais (1997); albeit an abridged version of both theories as is most applicable to the study of AFS (Gonzalez et al. 2011; Murdoch & Miele 1999). Integration is achieved via the recognition that while they have many similarities, including a fundamental reliance on the notion of coordination via inter-subjective quality conventions, Storper and Salais’ production focused theory has more relevance to firm level actors, that is producers; while the broader conventions theory of Boltanski and Thévenot captures the wider pallet of quality parameters available to consumers, who are less constrained by issues of production and marketing. Because both these theories are inherently inter-subjective, consumers and producers cannot be held to employ quality conventions in isolation from one another. Rather, the choices firms make in regards to their production processes and the quality factors which they feature in their marketing effort are directly linked to the quality attributes demanded by consumers and visa versa.

The linkage between these two theories is also dependent on the transmission of information between producers and consumers, with richer more personal means of communication, such as face-to-face interactions in the ‘interpersonal world’ facilitating the transmission of more diverse forms of quality justification. The information communication dependant nature of conventions is re recognised by Ponte (2009, p. 236) when he states where “industrial and market conventions are dominant [...] conventions are more portable and thus easier to transmit at a distance.” This means that for firms seeking to engage a mass market, where consumer are numerous and more cognitively distant, parameters of quality justification also

become more limited and more dependent on qualities which are carried with the product and experienced directly by the consumer.

As a hypothetical example of the conventionalisation process proposed by this model, a goat cheese product made using an ancient, but now little used, process may exist as a niche product sold through interpersonal channels such as farmers' markets and may appeal to consumer quality conventions such as the desire to help small local businesses (civic world of justification) and to retain local cultural heritage (domestic world of justification). However, if the product is popular and profitable, one or more producers may increase their output and offer the product to a supermarket chain to sell as part of that supermarket's mass market, differentiated product offer. As a result many more people are now able to access the product, but it has also moved from the interpersonal world of production at the farmers' market, which relies heavily on domestic conventions of quality, toward the market world of production, where price and product features which accrue entirely to the consumer are more central. Again, if the product proves successful in the supermarket, that retailer, or a more price focused competitor, may decide that they wish to offer an own brand alternative. The resulting own brand production process may employ certain industrial production processes, which differ from the historical process, but which enable greater consistency and efficiency. The end product is likely to have lower per unit production costs and be priced in such a way that it can now be obtained by even more customers. However, the original quality features such as interpersonal contact with the producer and connection with a culturally significant production process have been substantially diluted, or 'conventionalised', in the process.

This process puts into doubt the ability of AFS to ever appeal to a significantly larger consumer base, including to consumers with limited financial or temporal resources, without at the same time undermining many defining AFS characteristics. However, this framework also provides a means for assessing how changes to the commercial environment which effect information transfer and firm level competitive strategy may alter the trade-off inherent in the conventionalisation process.

This chapter has shown that despite the historically significant bounty delivered by the large scale, corporately controlled, globally integrated food systems which now dominate food production, distribution and consumption practices, some academic and popular writers have raised growing concerns about a range of problems emanating from these systems. The problems highlighted run the gamut of environmental, social and economic concern. Largely

as a reaction to these concerns, efforts to find more benign food system alternatives have emerged and grown in popularity. These alternative food systems are often based on small scale, grassroots efforts by both concerned consumers and struggling farmers. However, the complex and context specific nature of agri-food systems means that alternative and conventional food systems cannot be understood as two neatly bifurcated systems, but rather as production and consumption relationships based on a range of different quality conventions which combine to delineate differing ‘worlds of production’.

Yet AFS are not without their critics, with some authors suggesting they tend to be relatively exclusive movements, requiring significant financial, temporal and educational resources to fully appreciate and participate in. Further, where efforts have been made to make AFS more accessible, it has been suggested they lose much of what makes them distinctive in a process termed conventionalisation. The ability of a firm or industry, to simultaneously grow from a niche market to service a wider, possibly more price sensitive market, while also retaining its original differentiating features is relevant to Porter’s theory of generic strategy. This explains the conventionalisation process as the predictable outcome of firms avoiding becoming ‘stuck in the middle’ without a clear market strategy.

There is some evidence however that the wide spread adoption of e-commerce may present new opportunities for increased access to niche markets which retain their unique value adding strategies. This would be significant not just for participants in and proponents of AFS, but also for a range of other economic actors, such as social enterprises and artisanal producers who market products and services which are differentiated by their inclusion of a range of social, environmental and economic quality attributes.

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### **Chapter 3: E-commerce presents new opportunities**

The conventionalisation thesis puts into doubt the ability of AFS to ever appeal to a significantly larger consumer base, including to consumers with limited financial or temporal resources, without at the same time undermining many defining AFS characteristics. However, the widespread, although by no means universal, access to internet enabled e-commerce is having profound effects on many markets, including a general move away from mass marketing toward niche marketing (Anderson 2006; Brynjolfsson, Hu & Simester 2011; Eonsoo, Nam & Stimpert 2004). There is also some evidence to suggest increased price based competition online, meaning that not only may niche products, such as those sold through AFS, occupy a larger share of the market, they may also be cheaper (Brynjolfsson & Smith 2000; Porter 2001). However, little is known about how e-commerce may affect the ability of AFS to deploy those conventions of quality which currently characterise their world of production.

Of course, before an individual can fully appreciate any benefits that internet enabled e-commerce may generate, including potentially improved access to AFS, they must first have access to the internet, or at least be able to rely upon someone who can access the internet on their behalf. The term ‘digital divide’ is used to convey the disparity of opportunity that exists between people who have access to information and communication technologies, especially the internet, and those that do not (Norris 2004). Given that this study is interested in issues of access to AFS for people who have limited resources, it may seem counter intuitive to focus on the role of the ICT broadly and internet enabled e-commerce specifically, given that resource constrained individuals are more likely to be on the wrong side of the digital divide (Norris 2004). Yet, growth in internet connectivity has continued strongly in recent years, including in the Australian state of Victoria, which is both representative of the country as a whole and a case study site for this study, as can be seen from Figure 8 (Australian Bureau of Statistics 2011).

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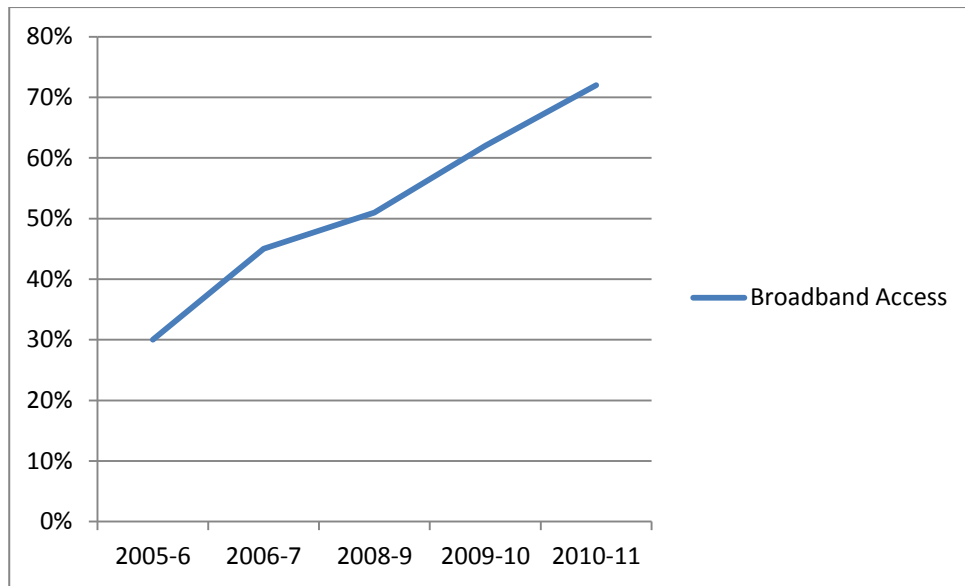


Figure 7: Growth in household broadband access in Victoria Australia

(Australian Bureau of Statistics 2011)

As shown in Figure 8, household broadband connectivity in Victoria has increased at approximately 10% per annum between 2005 and 2011, to the point where 72% of Victorian households had access in the home.

While poorer households are less likely to have access to broadband internet access at home than are wealthy households, community wide growth in internet access means that more than half of households reporting income in the lowest quartile, now also have broadband internet in the home (Australian Bureau of Statistics 2011). Certainly, continued effort needs be made to ensure that the benefits of ICT are as widely available as possible, however, given the current not insignificant level of internet access amongst the poorest segments of society, and its continued expansion, this study does not dwell on the issue of the digital divide. Rather, this study investigates a specific benefit which may accrue to resource constrained households as a result of current and likely future levels of access to ICT, including the internet and internet enabled e-commerce.

According to the popular technology writer Chris Anderson (2006) the internet will have a significant impact on people's consumption choices and options. In particular, Anderson states that niche products, such as those sold by AFS, are likely to become significantly more accessible and popular as a result of internet enabled e-commerce. He reasons that historically, firms have been incentivised to stock only the most popular products, being those at the head of the demand curve depicted in Figure 9.

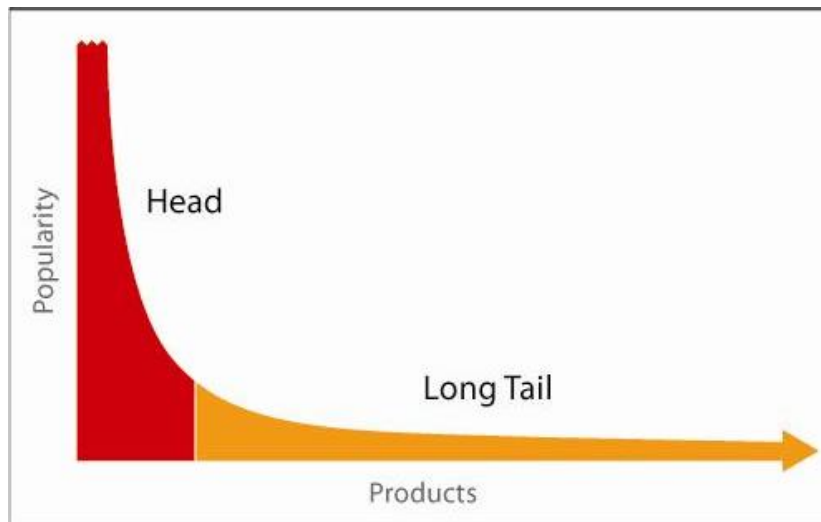


Figure 8: The 'Long Tail' of consumer demand

(Anderson 2006)

This product stocking strategy enables firms to make optimum use of their high value shopfront retail space. That is, retail buyers for traditional bricks and mortar firms stock items according to the Pareto principle, or 80/20 rule, which says that 20% of products will account for approximately 80% of sales (Anderson 2006). Stocking only these high turnover, mass appeal items gives the retailer the highest return on their expensive retail space. This explanation reveals why large national supermarket chains tend to sell the same relatively small selection of brands within a given product segment, rather than selling a range that reflect the true diversity of products available. This means, however, that the consumer wishing to buy a product that not many other people want, becomes, in the words of information systems researchers Choi and Bell (2011, p. 671), a 'preference minority' and is therefore less likely to be catered to by high street retailers.

In contrast, a firm which only sells via e-commerce does not need to maintain expensive high street retail space and can instead keep stock in relatively low cost warehouse space. Also, unlike retail space, warehouses can be tailored entirely for efficient storage and distribution as the vendor does not need to accommodate any space for customer promotions or interaction (Murphy 2003). This is not to say that efficient warehouse operations are cheap to set up and run, but rather that it tends to be relatively less expensive per item stored than high street retail space.

In addition to the reduced role of product holding costs in determining if firms should market niche or mainstream products, Anderson cites three factors in the online environment which

he contends combine to create ‘an entirely new economic model’ (2006, p. 16). The central feature of this new model being that ‘hits are relatively less popular and the niches relatively more so’ (2006, p. 53). These forces are:

- The ‘democratisation’ of the means of production

Personal computers and the internet have enabled non-professionals to produce outputs which previously required expensive equipment and skills only possessed by professionals. For example, computers and the internet now allow people to produce and publish their own films, novels and other creative art.

- The democratisation of the means of distribution

The internet has been particularly powerful at lowering the cost of distributing products which can be reduced to a digital format; however, it has also helped bring down the cost of distributing physical products. For example, the online business *e-bay* enables a lower cost supply chain than would be the case if those products had to be stored and displayed using high street retail space.

- Improved communication between buyers and sellers

Easy access to online review sites allows customers to give feedback on the products they buy and use, therefore effectively reducing the information asymmetry between buyers and sellers. In turn, this has the effect of lowering transaction costs in the market by making it easier for consumers to ensure a product will fully deliver the benefits they want, prior to purchase. That is, it reduces the need for buyer and seller to invest in contracts such as warranties prior to purchase and also reduces the likelihood that a product will need to be returned post purchase because it does not satisfy the customer’s needs (Williamson 1993).

If these online market features do increase demand for products in the ‘long tail’ of the demand curve, then AFS may stand to benefit, because according to Little et al (2010, p. 1810) AFS currently appeal to ‘only a small percentage of the population and remain within the niche market’. Of the three online marketplaces attributes cited by Anderson as driving the development of an online long tail demand curve, the ability of online media to radically reduce the cost of two way communication between buyers and sellers is most relevant to AFS. This is because what differentiates and sustains AFS is not just the “attachment of additional [quality assessment] criteria” to food which enables consumers to “go beyond purely priced based choices” (Little, Maye & Ilbery 2010, p. 1798), but also the

“socialization of new meanings attached to food” (Rossi & Brunori 2010, p. 1914). In the offline environment, this socialisation process requires high levels of time consuming and expensive interpersonal contact, while in the online environment tools such as social media and customer review platforms have drastically reduced the costs of communication between vendor and consumer and also between consumer and consumer.

Despite these advantages, Anderson has been criticized for overstating the significance of the internet as a force for change (Elberse & Oberholzer-Gee 2007). For example, despite the growth in trust creation mechanisms such as online peer reviews – which can be subverted, large firms will continue to have greater resources available for the development of widely known and trusted brands. Given that purchasing physical products over the internet invariably involves a delay between when the consumer pays for the product, and when they can actually receive and try the product, trust and therefore known brands, are likely to remain an area of uneven competition for smaller firms.

Despite that significant caveat, a number of studies have provided empirical support for the assertion that increased e-commerce is leading to increased market share for firms serving niche markets (Brynjolfsson, Hu & Simester 2011; Choi & Bell 2011; Hinz, Eckert & Skiera 2011). For example, according to Hinz et al (2011) around 30% of sales from the online retailer *Amazon*, now come from books and CDs which are not stocked by offline retailers, due to their unit sales being too small to justify taking up high street retail space. Similarly, the online music provider *Rhapsody* has reported that consumers download more songs from outside of the top 10,000 songs each month than they do from inside the top 10,000 (Brynjolfsson, Hu & Simester 2011, p. 1373). While both of these firms do carry and own physical stock, they are able to maintain a much larger range than their offline competitors because stock can be stored in relatively low cost warehouse space, rather than in expensive high street retail outlets.

Empirical evidence that the long tail effect of e-commerce also applies to goods like food, which are both relatively bulky and not amenable to digitisation, comes from Choi and Bell (2011), who investigated the market for diapers in the United States. Specifically, Choi and Bell examined the amount of shelf space dedicated to a niche brand of diaper in locations with a significant population of young families, against the shelf space dedicated to the same brand in locations where elderly persons comprised the majority. They then compared those

results with internet sales in those regions as recorded through a large online retailer of diapers.

The Choi and Bell (2011) research yielded four substantive findings. Firstly, they found that internet sales were on average 50% higher in areas where demand for diapers came from preference minorities, that is, the location with the smaller population of the target consumer, in this case young families. Secondly, they found that preference minorities exhibited less price sensitivity when shopping online. The authors conclude this is likely a result of these consumers facing more significant search and transport costs when buying their chosen brand in offline stores. Thirdly, online sales of niche brands were significantly higher in regions where diaper shoppers were a preference minority. With a controlled and equal number of potential shoppers in both locations the researchers found the online demand for the dominant brand of diapers was 40% higher in preference minority areas, while demand for niche brands was 140% higher in these areas. According to Choi and Bell (2011), these findings indicate that products which fall within the long tail are likely to draw significantly more sales from locations where target consumers constitute a preference minority. Therefore, this finding suggests that AFS that employ e-commerce may experience relatively stronger demand from those areas which are currently not well served by facilities such as farmers' markets. The fact that farmers' markets tend not to be well represented in areas with low socio-economic characteristics (Tropp & Barham 2008) suggests online e-commerce may not only help increase total demand for AFS, but also disproportionately increase demand from those areas which are currently underserved.

However, Choi and Bell also claim that because preference minorities are underprovided for in offline markets, and therefore face higher transaction costs when trying to complete a successful offline transaction, they tend to be less focused on the sticker price of the good when it is sold online. That is, when all costs, including sticker price and transaction costs are taken into account, even if the sticker price for the online item is higher than the offline alternative, the total cost of obtaining the online example may still be lower (Choi & Bell 2011). If this is correct and online customers do display lower levels of price sensitivity online, then online vendors are likely to maintain higher sticker prices. However, research results remain mixed as to whether average product prices are in fact higher or lower online.

## **The evidence that e-commerce lowers prices for consumers is mixed**

Early on in the development of online e-commerce, it was thought that search costs would soon be reduced to the point where transactions took place in a state of almost perfect information. More fully informed, consumers could easily choose the lowest cost option, and as a result all prices would be driven down (Porter 2001). Also, as discussed above, the internet tends to lower barriers to market entry (Anderson 2006) and as a result Porter (2001, p. 69) suggests that 'most industries will likely end up with a net increase in the number of competitors and fiercer rivalry than before the advent of the Internet'. If true, this suggests there is likely to be more priced based competition as a result of internet enabled e-commerce.

This assumption was tested by Brynjolfsson and Smith (2000) who looked for price dispersion among both online and offline businesses selling CDs and books. The objective of their research was to determine the existence of price differences between offline and online retailers, but they were also keen to find the level of price deviation between retailers selling either online or offline.

The Brynjolfsson and Smith (2000) findings supported the claim that online e-commerce does lead to lower prices because they found that identical CDs and books sold online were between 9-16% cheaper than those sold offline. Another finding of the Brynjolfsson and Smith research was that online retailers tended to change their prices much more frequently and in smaller increments than offline retailers, reflecting the smaller costs of these changes, referred to as menu costs, in the e-commerce environment. The Brynjolfsson and Smith study also found a higher degree of price dispersion among online retailers, with the average price range for books being 33% and 25% for CDs. Furthermore, the lowest costs sellers tended not to be the highest selling. According to Brynjolfsson and Smith, this last finding reflects retailer heterogeneity in terms of consumer awareness and trust. This study by Brynjolfsson and Smith appears to offer some support for the hypothesis that the internet is a more efficient retail channel in terms of price levels and menu costs, while also showing that brand heterogeneity remains an important element in online markets.

A significant reason for lower online prices is the reduction in information search costs for consumers. That is, when consumers are able to quickly and easily compare prices, retailers are encouraged to compete on price until prices are driven down to the point of marginal cost of production. This is explained in further detail by Brynjolfsson and Smith (Brynjolfsson & Smith 2000, p. 570) who state:

*Since it takes less time to compare prices on the internet, it is plausible that the average internet shopper will compare prices at more retailers than the average conventional shopper. Any comparison that took this into account would be more likely to find the lower price on the internet.*

Another significant driver of lower prices online is low market entry costs, given that: ‘more entry [of firms into the market], or even the threat of entry, should lead to lower prices in equilibrium’ (Brynjolfsson & Smith 2000, p. 569). Also, as stated by Anderson (2006), online only firms are likely to have lower operational costs, as they do not need to maintain a relatively expensive physical presence in high traffic retail zones. Brynjolfsson and Smith (2000, p. 569) believe ‘these lower operational costs among internet retailers could also lead to lower prices in a long run equilibrium.’ While it is possible that costs savings derived from the lower operating costs in the e-commerce environment could be retained by producers, according to Ward (2003, p. 93) ‘some portion of a firm’s reduced costs are usually passed on [to consumers] in the form of lower prices’. Therefore in relation to AFS, it is plausible that the increased use of e-commerce may lower product prices and in turn reduce a significant barrier to participation for resource constrained consumers.

However, not all empirical studies have found that internet enabled e-commerce leads to lower prices. For example, a study by Ancarani and Shanker (2004) examined the prices of books and CDs sold by online only, offline only and multichannel retailers and found that when delivery costs were taken into account, online only stores were in fact the most expensive option. However, Ancarani and Shanker (2004) do acknowledge the variability of research results related to online and offline pricing and put forward a number of explanations for that variability. For example, they suggest that the relative competitiveness of online prices will increase the longer a given product category has been available for sale online. The reason for this, according to Ancarani and Shanker, is that early adopters online are less likely to be price sensitive than the later stage customers who follow, meaning vendors must lower their prices to attract all potential profitable sales. The second reason for online price variability according to Ancarani and Shanker relates to the extent of similarity between online and offline purchase experiences - where similarity is high, prices are likely to be lower online as competition is more direct. Finally, Ancarani and Shanker suggest the extent to which a product is amenable to digitisation will have a significant impact on online pricing. This is because the less amenable to digitisation a product is the fewer quality features a customer will be able to discern before purchase. Deprived of some quality



indicators, such as the ability to touch and smell the product, customers tend to be less focused on price and more concerned with other intimations of quality, such as a known brand (Ancarani & Shankar 2004). If correct, this would have significant implication for the success of online food sales, which depend on quality features which are hard to digitise such as texture and smell.

### **Towards an online alternative to the conventionalisation thesis**

Despite the lack of clear findings in relation to the relative prices of goods sold online, empirical evidence of a long tail demand distribution suggests that there is likely to be increased demand and competition in niche markets online (Brynjolfsson, Hu & Simester 2011; Choi & Bell 2011). This change in the nature of consumer demand online is, according to Brynjolfsson et al (2011), due to a reduction in search costs which enables customers to more easily find products with very specific characteristics, as well as easier access to impartial product reviews and recommendations, which reduces the need to rely on known brands as a marker of quality. Combined, these factors lead Brynjolfsson et al (2011, pp. 1373-1374) to conclude that ‘underlying trends in technology portend an ongoing shift in the distribution of product sales [...] boost[ing] the share of sales generated [by] niche products, leading to a long tail.’ This change in consumer demand online is represented in Figure 10 which shows both a flattening of the demand curve, as niche products absorb an increased share of demand, and also a lengthening as more viable niches emerge at the margin.

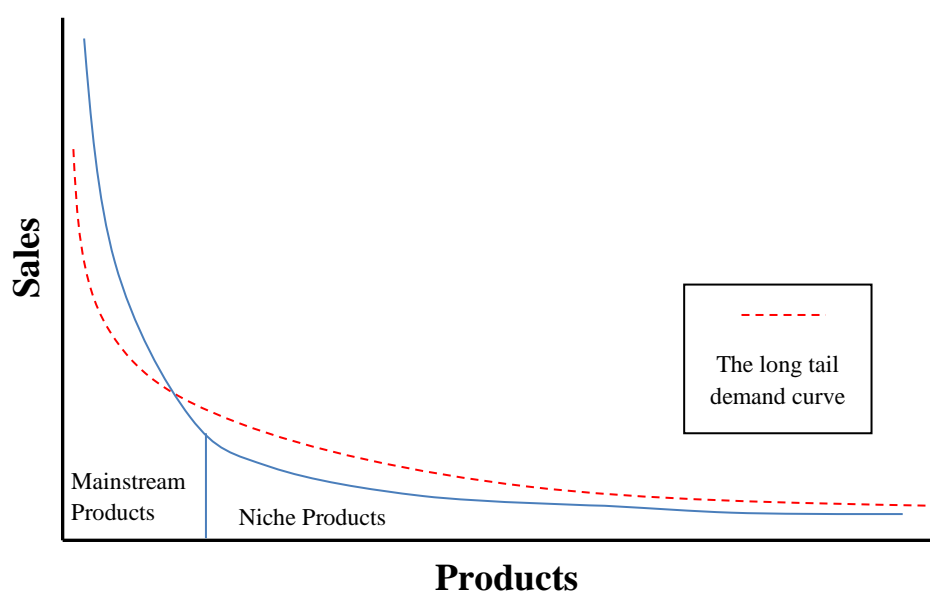


Figure 9: The effect of long tail demand on niche product markets.

Given that AFS firms tend to offer products with a relatively unique set of quality attributes, including for example associations with very specific physical environments and social customs, this shift in demand toward niche products may in effect mean the mainstream is coming to them. That is, rather than firms having to change their marketing strategy from Porter's focus strategy to a mass market strategy, or alternatively waiting for larger producers to adopt those innovations which can be easily and widely broadcast, the growth in e-commerce may in fact be changing the nature of market demand such that the output of AFS are relatively more popular in the online environment than they are in the offline environment.

A graphical representation of this hypothesis is shown below as Figure 11. The model of the AFS conventionalisation process proposed in Figure 7 (p. 66) is adapted to incorporate the hypothesised effect of the long tail demand distribution. According to this theory, in the online environment the relatively unidirectional development path from niche product through to mass market differentiated product and finally on to mass market price leadership is broken down. Instead, the level of separation between the different generic strategies is reduced by the nature and growth of online e-commerce; leading to increased demand for niche product characteristics (Brynjolfsson, Hu & Simester 2011; Eonsoo, Nam & Stimpert 2004). This is due in large part to lower search and information costs in the online environment, enabling consumers to better match their unique preferences. This means that existing niche firms may increasingly reach a mass market, but also that firms who previously targeted the mass market with a differentiated product may seek to service smaller niches, including catering to customers with a more diverse range of quality conventions.

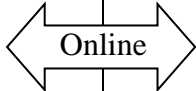
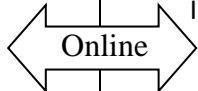
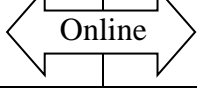
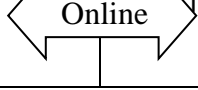
	<b>Niche Market Segmentation Strategy</b>	<b>Mass Market Differentiation Strategy</b>	<b>Mass Market Price Leadership Strategy</b>
<b>Consumer (Worlds of Justification)</b>	Civic/Green, Domestic, 	Market 	Industrial
<b>Producer (Worlds of Production)</b>	Interpersonal 	Market 	Industrial

Figure 10: Hypothesised effect of the long tail demand curve on AFS accessibility

If this theory is correct and niche markets and mass markets become more blurred as a result of online e-commerce, questions are raised about which quality conventions will be applied by both consumers and producers. For example, if demand for niche products is growing more strongly than for mass market products, it is plausible to expect increased competition in these markets, including price based competition in line with the findings of Eonsoo et al (2004). As such, this may mean that online AFS consumers may increasingly prioritise quality attributes from the market world of justification, such as price and tangible product characteristics like convenience; potentially alongside existing AFS quality assessments such as those from the civic, green and domestic worlds. This model does not propose that the different generic strategy classifications are now indistinguishable or that the quality conventions used by consumers and producers are similarly conflated, but rather that distinction is likely to be less clear in the online environment and less likely to evolve in a unidirectional manner, as suggested by the conventionalisation thesis. Assessing the existence of any changes to consumer and or producer quality conventions in the online environment, along with any impact such changes may have on the accessibility of AFS, is the subject of this study.

Specifically, this study asks: do e-commerce mediated AFS attract more resource constrained consumers, relative to offline AFS, while at the same time retaining those quality conventions which currently define their ‘world of production’?

Answering this question is important in determining if e-commerce has the potential to ameliorate what Goodman (2009, p. 3) and others perceive as the ‘strong class [and] [...] income’ based restrictions to participation in offline AFS, while also avoiding the ‘conventionalisation’ of AFS within the industrial and market worlds of production (Buck, Gets & Guthman 1997; Morgan, Marsden & Murdoch 2006; Stræte 2004).

Within the empirical component of this study, farmers’ markets are taken as emblematic of offline AFS specifically, and niche markets more generally, and are used for comparison purposes when seeking to answer the following questions which are internal to the larger research question:

- Do the demographic characteristics of offline farmers’ market customers and customers of e-commerce mediated AFS suggest that the latter are more resource constrained?

- Do people shop differently when using e-commerce mediated AFS than they do at farmers' market? For example, do they shop more frequently or spend more money?
- Are e-commerce mediated AFS and offline farmers' markets substitutes for one another in the eyes of consumers?
- Do e-commerce mediated AFS have significantly different product prices and levels of convenience than offline farmers' markets?
- What quality conventions do consumers use when shopping through either e-commerce mediated AFS or offline farmers' markets?

The significance of finding answers to these questions has been shown within this chapter. Despite the historically significant bounty delivered by the large scale, corporately controlled, globally integrated food systems which now dominate food production, distribution and consumption practices, there are growing concerns about a range of problems emanating from these systems. As a result, efforts to find more benign food system alternatives have emerged and grown in popularity. However, the high prices and relative inconvenience of these alternatives has meant that they tend to be relatively exclusive movements which require significant financial, temporal and educational resources to fully appreciate and participate in. This study does not seek to exhaustively investigate or defend claims that AFS offer significant environmental, social and economic advantages. Rather, it takes these assertions largely at face value and instead concentrates on issues associated with consumer access equity and how e-commerce, as a disruptive innovation, may begin to make AFS more accessible to a wider range of participants. Certainly, e-commerce has had a significant impact on the wider economic landscape; including increasing the viability of niche, highly differentiated marketing strategies, such as those employed by many firms participating in AFS. However, significant questions remain as to whether e-commerce mediated AFS can really attract a broader range of consumers, while continuing to create value in ways that resonate with the same conventions of quality as in the offline environment.

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## **Chapter 4: Food is different and difficult to sell online**

The model presented in Figure 11 suggests that AFS which make significant use of e-commerce may enjoy increased demand relative to the offline environment. If this is correct, some of this increased demand may flow from currently non-demanding consumers, potentially including those with limited financial and/or temporal resources. However, while a number of studies have provided empirical support for the idea of a long tail demand distribution online, only a relatively small amount of empirical research has been conducted into online food sales in general, while no studies have been found which examine the effect of a long tail demand distribution on niche online food providers specifically. This is significant because unlike many of the products that have been researched in relation to online trading, food products have a range of characteristics which make them different and difficult to sell online (Murphy 2003; Yrjola & Tanskanen 2005).

Unlike items such as books and music that are often traded online and which have been the subject of previous research, food as a commercial product is very time sensitive. In many cases it will only remain saleable for a short period of time, and then only if stored and transported within a narrow temperature range. Many fresh food items such as fruit and vegetables are also susceptible to damage by mishandling and therefore must be protected from impact at all times. Further complicating the logistics tasks involved in selling food over the internet is the fact that customer expectations about how food should look and feel exceeds the expectations they place on most information goods like movies and music, which are readily bought and sold on the internet (Murphy 2003; Wilson-Jeanselme & Reynolds 2005).

Despite these obvious difficulties in food marketing and logistics, efforts to sell groceries online commenced relatively early in the time line of e-commerce. As early as 1995, there were entrepreneurs claiming that the online market place would revolutionise food shopping (Korman & Morgens 2005). The development of online food sales has not been a smooth upward trajectory however, and there have been significant and widespread business failures.

The most high profile of these failures was the collapse of the business Webvan in the US in 2001. Founded in 1999, at the height of the speculative investment bubble that formed around internet companies, Webvan was valued at over \$US8 billion on the day that it listed on the New York stock exchange (Murphy 2003). This occurred despite the fact it was at that point

only operating out of one warehouse facility in San Francisco. Nearly US\$1 billion in actual investment was poured into Webvan, as investors gambled that their plan for a nationwide network of warehouses capable of delivery a wide selection of groceries to the consumers' home would be the model that would make online food shopping work (Murphy 2003). In the end, it took only 18 months for Webvan to fail, taking with it the majority of the money that had been invested in it, as well as confidence in the economic viability of online grocery retail, or e-grocery as it is also referred to.

In the same year as the failure of Webvan, a book titled *Food industry and the Internet: making real money in the virtual world* (Smith 2001) was published. It was compiled before the demise of Webvan and typified the positivity that surrounded early attempts to profit from the emerging online shopping market at that time. Smith's book includes descriptions of 32 businesses he believed likely to find commercial success selling food over the internet. However, 10 years on from the publication of that work, an internet search found the more than 70% of the websites detailed by Smith have become inactive, suggesting these businesses too have failed, or been swallowed up by competitors. While this represents only a small data set, a pattern does emerge, with significantly more non-active websites amongst specialist retailers and online grocery businesses, which tend to sell a wider selection of items than individual producer/farmers.

Ostensibly e-grocery retailers should be able to offer lower distribution costs to consumers because an increased product range increases the likelihood of multiple products being purchased and shipped together, thus decreasing per unit shipping costs, which are significant in the online environment. However, according to Yrjola and Tanskanen (2005) logistics related problems are the primary reason for the high level of business failure in the e-grocery sector.

Logistics problems associated with materials handling in e-grocery businesses have three main components according to Yrjola and Tanskanen (2005). The first problem is how to efficiently pack customer orders. Established bricks and mortar food retail firms quickly run into problems when trying to use their existing retail infrastructure because their supermarket format has not been designed for efficient collection of items. Indeed, the opposite is true (Yrjola & Tanskanen 2005). Supermarket layouts are designed to maximise the amount of shelf space a customer must pass and therefore the likelihood that they will make impulse purchases. Nor can dominant bricks and mortar grocery retailers make significant use of their

central distribution centres, as these repositories are set up to handle large batches of product, not small orders for individual customers (Murphy 2003; Yrjola & Tanskanen 2005). The remaining option is the development of stand-alone packing and distribution centres, which can be expensive due to the requirement for extensive refrigeration facilities and the difficulty with automating the assembly of heterogeneous customer orders.

The second major problem with fulfilling customers' orders is associated with the unavailability of stock items. According to Yrjola and Tanskanen (2005, p. 163) around 8% of products are out of stock at any one time in bricks and mortar supermarkets around the world. When 'stock-outs' occur in physical stores, the customer is often able to choose a substitute, or simply put the purchase off until later; in either case the vendor may not know that the customer was unable to get what was wanted. In the online environment, especially when real time inventory control is absent, customers may order and pay for products which are not actually in stock at the time of ordering. This means that when an attempt is made to fulfil that order, the vendor must make a choice between giving the customer some kind of credit or refund, or autonomously substituting the missing product with another product the vendor deems to be similar (Murphy 2003; Yrjola & Tanskanen 2005). In either case the stock-out is more visible and disruptive to the customer as they do not know they won't get the desired item until their shopping has arrived.

The third major materials handling problem is associated with the final stage of the delivery process, that is, how the product is received by the customer. There are two primary options in this regard. The first is to have 'manned' reception, where the vendor requires that someone must be home to receive the order. This presents a problem in that it requires both the vendor and customer to coordinate their movements, and a failure to successfully do so means the products cannot be delivered and must be retained by the vendor who must then try to deliver them at another time. In addition, Yrjola and Tanskanen (2005, p. 165) point out that 'in some cultures [...] the habit of making small talk with the customer may multiply the dropping time of home deliveries'. These kinds of coordination failures, which are potentially common, then have knock-on effects in terms of delivery time tables and cost.

The alternative option involves un-manned, or unattended drops. It also had a range of problems. These problems are primarily related to the food safety and product quality issues associated with leaving food products outside and unattended in diverse climates. One means of solving this issue is to require the customer to purchase a climate controlled, lockable

container which is placed outside their house. This enables the delivery agent to safely drop the groceries off even when the residence is unattended. However, this solution does impose a cost on the customer which they may be unwilling to bear (Yrjola & Tanskanen 2005).

In addition to the range of difficulties associated with physically getting food products to the consumer's home, there are also important issues associated with how best to transmit information between vendor and customer. One of the most pronounced of these problems is the length of time it takes customers to initially set up an account when they first use an e-grocery service, compounded by the length of time it takes for customers to become familiar with how to use the website once registered (Wilson-Jeanselme & Reynolds 2005).

Another major information problem is that online customers are unable to touch, smell, and in most cases, see the exact food item they will receive. This type of highly sensory information can be critical for discerning customers searching for food items with a specific degree of ripeness or freshness. While less of a problem for very uniform packaged goods, it does impact the sale of highly perishable fresh products like meat, fruit and vegetables (Murphy 2003). Conversely, the internet is better able to provide a range of other critical information to the customer than is the case in an in-store environment. This is because the menu costs of physically displaying and continually updating detailed information about a product is likely to be prohibitive in an in-store environment, but not so online (Yrjola & Tanskanen 2005).

While these logistics and information issues associated with e-grocery adds a burden not carried by offline retailers, that burden is in effect lifted off the shoulders of the online customer, thus significantly reducing the amount of time they spend in the act of grocery shopping. In the traditional bricks and mortar grocery store, many of the previously mentioned logistical problems have been solved by customers effectively acting as a 'voluntary and unpaid workforce in order picking and last mile transportation of groceries' (Yrjola & Tanskanen 2005, p. 165). Finnish research has shown that the average adult spends 200 hours a year engaged in retail shopping, of which 57% is taken up in transport to and from the retail outlet. This is equivalent to five 40 hour work weeks each year (The Helsinki Research Institute for Business Administration 1995). Therefore, internet retail and home delivery of grocery items represents a significant opportunity for consumers to save time and financial outlay. Interestingly though, a study conducted by Kotzab and Teller (2005), which asked both supermarket and online shoppers to put a value on the logistics tasks associated



with getting food from the store to their home, found that neither group was willing, or able, to convert the transportation effort into a cost figure. Furthermore, when the respondents were told in detail about the logistic effort required to get food items from the store to them, very few respondents were willing to pay for the service regardless of the effort involved.

Despite these logistical difficulties, some firms have been able to make a success of online grocery retailing. To date the largest and most profitable online grocery retailer globally has been the UK supermarket chain Tesco, which also operates in the United States, Ireland and South Korea. In 2004-05 the company made a profit of £36 million from online sales, which were growing at a rate of 24% per year (Wilson-Jeanselme & Reynolds 2005). Research was conducted by Wilson-Jeanselme and Reynolds, who examined the shopping preferences of online food shoppers in an attempt to understand why the Tesco online grocery business has been a success, while many others have failed. Wilson-Jeanselme and Reynolds found that online customers place a high value on the following attributes when deciding whether to continue giving custom to an online grocery retailer:

- Having a website interface which enables fast ordering
- Delivering consistently high quality products
- Providing a fast turnaround time between when the order is placed and the products are delivered to the home
- Consistent delivery of the products at the agreed time

Interestingly, one factor that was not identified as important by the consumers interviewed by Wilson-Jeanselme and Reynolds (2005) was price. However, the researchers postulate that price may become an issue in the future if most firms can adequately deliver the most critical service delivery components mentioned above. Korman and Morgens (2005, p. 10) also believe online food shoppers are likely to become more price sensitive as the online grocery sector matures, stating that: '[h]and in hand with growing confidence comes greater price awareness [, meaning customers] will inevitably become more sensitive to issues of price'. This assertion, which is broadly in line with the product lifecycle theory, suggests that the longer AFS are mediated through e-commerce the more sensitive customers are likely to become to price, meaning prices will be forced downward toward marginal costs. That fact that the online food market is becoming more mature can be seen from the steady growth in the value of this market in many countries around the world. For example, in the

UK the value of online food purchases grew at the rate of 34% per annum between 2004 and 2009; accounting for 3% of the market, or £3bn in 2009 (Hogpin & Mirriman 2010). It is predicted by Hogpin and Mirriman (2010) that this rate of growth will slow but they still expect the market for online groceries to increase at a rate approximately 10% faster than the wider grocery market. At that rate of growth online sales will account for 10% of grocery sales in the UK by 2020. A report by The Nielsen Company (2011) also predicts strong growth in the online grocery market in the United States, suggesting online sales there will account for around 4% of the total grocery market, or US\$25bn, by 2014.

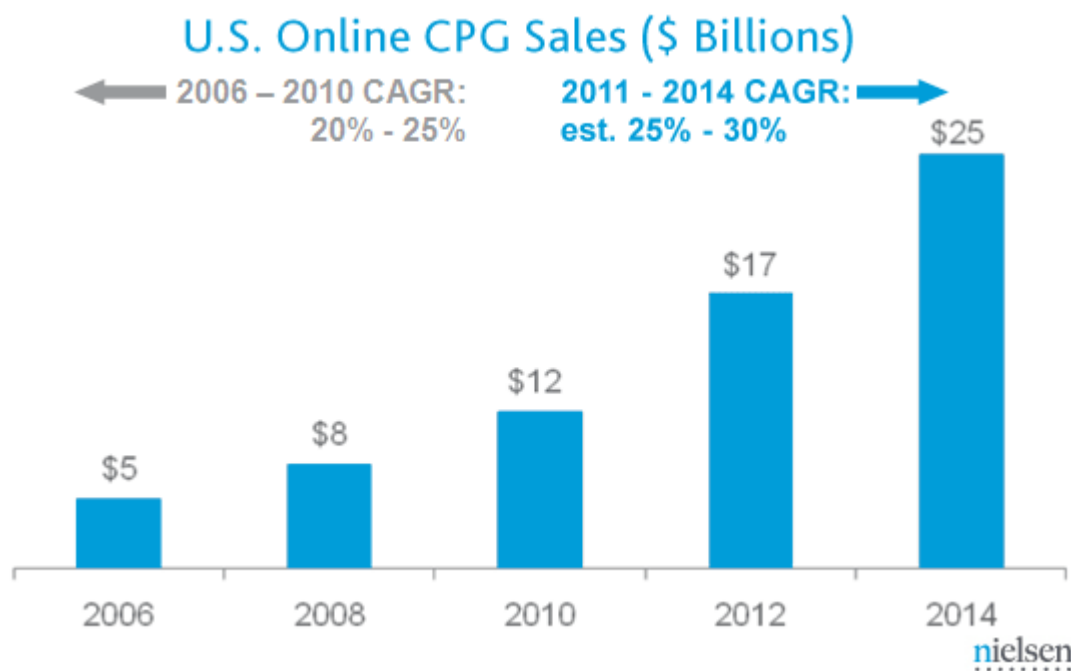


Figure 11: Historic and projected growth in online grocery sales in the United States (The Nielsen Company 2011).

The size of the e-grocery market in Australia is also significant, and is estimated at 3% of the total grocery market of around AU\$100 billion per annum in 2012 (Retailbiz 2012).

According to Long (2011), 8.2% of Australians claim to have purchased a food product over the internet in the 12 months up to April 2011, an increase from 7.1% in the previous year.

Reasons for the continued expansion of online grocery sales in markets around the world are explored by Hogpin and Mirriman (2010), who propose four primary motivating forces. Firstly, online shopping trends show a widening demographic of consumers using online shopping. Secondly, broad demographic trends, such as the increased number of women working out of the home in paid employment, have increased the relative importance people

place on convenience. Thirdly, online grocery providers have managed to improve their service levels over time. Lastly, Hogpin and Mirriman suggest that in many developed economies, all of the easiest opportunities for geographic expansion by bricks and mortar retailers have already been exploited. This means that expansion through online sales has become a lower cost and more desirable option for retailers.

Combined, these four factors suggest significant potential for disruption within the grocery retail sector, including in ways that may be favourable for small firms positioned within AFS. While to date the most successful online retailers have tended to be those established by large offline firms such as Tesco; Prud'homme and Boyer (2005) suggest that e-commerce may contribute to an increase in the total number of firms offering high levels of product differentiation and customer service. In turn, this will take market share from the large offline firms which are highly focused on price. According to Prud'homme and Boyer, this will occur because e-grocery necessarily involves higher levels of customer service than the dominant high street model where customers are required to physically present themselves at the shop to choose and pack their groceries before, in many cases, also carrying out the final payment process unassisted at an automated teller. By comparison, e-grocers carry out the majority of these tasks for the customer and thus have a larger number of ways in which they can differentiate themselves and add value, for example by offering faster or lower cost delivery than their competitors.

The argument put forward by Prud'homme and Boyer (2005) is relevant to that advanced by both Anderson (2006) and Brynjolfsson et al (2011), which suggests there is relatively stronger demand for niche products in the online environment than in the offline environment. However, it does not necessarily follow that a larger number of smaller firms, including small firms selling into local markets typical of AFS, will supply these niche products. Instead, it is possible that existing dominant firms such as Tesco in the UK, may simply expand their range of products and services. Indeed, according to Morgan et al (2006) a primary feature of the 'market' world of production, occupied by supermarkets such as Tesco, is that they continue to fragment their markets into smaller niches. However they also suggest that the production processes employed by firms within both the 'market' and 'industrial' worlds of production, remain standardised even when producing products for different niche markets. Conversely, within the 'interpersonal' world of production, occupied by AFS: 'production processes, consumption cultures, and regional ecology are closely bound together; they compose a sharply distinct 'mini-world'' (Morgan, Marsden & Murdoch 2006, p. 23). The

distinction being that food products stemming from AFS have deeper levels of heterogeneity, reflecting ecological and cultural factors in both production and consumption processes which are carried on at a finer grained level than is the case for food systems reliant on quality conventions from the industrial and market worlds of production.

Whether or not dominant firms within the market world of production will be able to use the long tail effect of internet marketing to increasingly cater to more of those customers currently being serviced by AFS in the domestic world of production is uncertain – as is the ability of offline AFS to successfully transfer their value constructs online. The outcome of these changing competitive forces is likely to have significant impacts for both consumers and producers. Where competition is increased it will place a downward force on prices such that the range of consumers willing and able to access such food may be increased (Ancarani & Shankar 2004; Anderson 2006; Brynjolfsson, Hu & Simester 2011; Porter 2001). However, at the same time increased competition within those market niches currently serviced by AFS would also erode what Goodman (2004, p. 7) terms the ‘privileged’ position held by farmers and producers. Significant questions still remain, however, about the potential of AFS to first deploy and then defend their unique quality conventions through the medium of e-commerce.

## **AFS and e-commerce**

Only a small number of authors have written about the connection between AFS and e-commerce, while even fewer have conducted empirical research on the subject. Of those who have conducted primary research, most suggest that e-commerce holds significant potential for improving the performance and popularity of AFS. An example of the positive commentary on this topic is this by Rye:

*The emergence of vegetable box schemes, CSA's, co-ops, buying groups and food hubs are signs of how our future, decentralized food system might look. Software is a major lever to catalyse these forms of enterprise (Rye 2012, p. 1).*

This statement by Rye suggests that the information and communication technology (ICT) which underpins e-commerce, will play a major role in future the development of AFS. However, significant questions remain as to who will benefit most from e-commerce mediated AFS and how this evolution will impact on the ability of AFS firms to continue differentiating their product offer and adding value in ways currently perceived as both positive and alternative.

While not dealing specifically with AFS, information systems scholars Galloway, Saunders and Deakins (2011), have highlighted the lack of research exploring the potential of ICT to facilitate geographically bounded, that is local, business development for small and medium sized enterprises (SMEs) in rural areas. They respond to this lack of research with an investigation of internet portals and SME business users in rural Scotland. They suggest that while extant theory claims increased use of the internet should lead these firms to become more outwardly focused on distant markets, their empirical results actually show that 66% of the rural SMEs surveyed used online business portals solely to raise their profile in the local community. This is counter intuitive, as the relative remoteness of rural businesses has long been considered one of the main constraints on their economic success, while one of the most discussed advantages of the internet is its ability to reduce distance between buyer and seller for many types of product (Galloway, Saunders & Deakins 2011).

One reason put forward by Galloway et al (2011) to explain why SME continue to focus their online efforts at building local custom, is that internet access and communication via email have become so ubiquitous that nearly all firms now feel they need to have a least some online presence in order to continue meeting the demands of their existing customers and suppliers. Galloway et al conclude that the suggestion rural firms primarily use the internet as a means to extend the reach of their business into external markets is overstated, and that what is likely to be more important for these firms is using the internet to ensure their business has a full and adequate presence in the changing local business environment. This is particularly relevant to firms participating in AFS because many, although not all, focus on the 'interpersonal' world of production which prioritises geographic proximity and interpersonal relationships (Goodman 2009; Morgan, Marsden & Murdoch 2006). As such, the finding that SMEs in geographically distinct areas primarily use ICT as a successful means for increasing local business, supports the idea that ICT facilitated e-commerce can increase the prevalence of the type of geographically 'embedded', if not always constrained, transactions which typify AFS.

Information systems scholars, Butler et al (2009) are some of the few authors who have engaged directly with the implication of e-commerce for local food systems. Like Galloway et al (2011), Butler et al (2009, p. 3), note the lack of research in this area when they state:

*Many studies have argued for the role of information technology (IT) in global supply chains and the impact that it has by increasing the efficiency and*

*effectiveness of such supply chains. The role of IT in local business communities, and specifically in local food systems, is less clear.*

Despite the paucity of research on the subject, Butler et al contend that the same factors leading e-commerce to have a significant impact on globally integrated supply chains, will also likely impact on geographically constrained supply chains like local food systems. They propose six central means by which ICT and e-commerce is likely to impact local food systems.

- ICT facilitates growth in local food systems by reducing search costs.

Search costs within local food systems can be significant because sellers are often small geographically dispersed businesses that do not spend significant amounts of money on marketing. This limitation has an effect on both business customers and end consumers as they must expend more effort to find and compare different offers in the marketplace. When search costs are low people are more likely to actively search for the most desirable transaction, conversely, when transaction costs are high they tend to accept less desirable outcomes, or else they don't complete a transaction at all.

The use of ICT, such as online product databases and communications technology, to enable fast, low cost communication between buyers and sellers and between prospective customers and existing customers, all result in lower search costs. According to Butler et al (2009), these ICT enabled reductions to search costs are applicable to local food systems, and that when realised, help increase both the quantity and quality of transactions within these systems.

- ICT helps the operation and growth of local food systems by increasing innovation and innovation transfer.

ICT provides the infrastructure to make the actions and ideas of others more visible, therefore providing more raw materials for innovation. It also provides a flexible means for people to ask and answer question.

In the modern era, localised food systems are rarely the dominant type of food system and where they do develop, they can be understood as a form of innovation (Rossi & Brunori 2010). As such, ICT broadly, and the internet specifically, provides an important tool for information gathering and sharing, both within and without local geographic borders.

- ICT helps local food systems grow by improving the efficiency of production and distribution tasks.

Inventory control systems, production planning tools and geographic information systems all have applications within agri-food production and distribution, and as such Butler et al believe they are likely to lead to increased production efficiency and lower costs not just for large agri-business, but also for small growers focused on local markets.

- ICT helps grow local food systems by enabling more diverse means of completing transactions.

Examples of this increased flexibility include the increased ability to accept small payments via credit card and online payment systems which let customers place both standing orders and unique orders. Additionally, there are increased communication possibilities for sorting out order handling problems.

- ICT can increase the legitimacy of participating in local food systems.

By making participation in local food systems more visible, whether as a customer, intermediary or participant, ICT helps to normalise such participation and therefore increases the willingness of others to participate.

- ICT helps local food systems grow by further encouraging and enabling social interaction between participants.

The role of social relationships within the formation and operation of AFS has been highlighted by a number of authors (2002; Jones et al. 2010; Kirwan 2006). The ability of online social networking sites, and other ICT related broadcasting and communication tools, to help people identify and communicate with others who share similar interests, will likely assist in connecting people with a shared interest in local food systems and AFS in general.

According to Butler et al (2009, p. 7) the effect of these six factors on local food systems require further research, however, they are confident that the increased use of ICT to expand local food systems will improve the 'economic health and quality of life' of local communities.

This positive potential is also identified by management academics Volpentesta and Ammirato (2010). They contend that the development of more socially, environmentally and economically viable food systems depends on the development of cohesive networks of both small and medium sized agri-food businesses and consumer groups. However, in order for

these networks to reach their full potential both organisational and technological issues must be addressed. According to Volpentesta and Ammirato (2010, p. 310) this is because:

*Most successful experiences of such collaborative networks highlight the importance of setting up organisational and technological aspects in order to support the socio-economic strength points.*

These authors suggest that while such collaborative networks have a variety of different aims, for example marketing produce under a regional brand or deepening interpersonal relations between growers and consumers, they all share a common causal motivation. That is the desire to resist the growing market power of multinational processors and retailers.

Volpentesta and Ammirato term these collaborative networks ‘Regional Alternative Agri-food Networks’ or RAANs’ (Volpentesta & Ammirato 2010, p. 321).

It is proposed by Volpentesta and Ammirato that there is an organisational and technological model for operating and linking such a network. However, development of this model is dependent on the following four attributes being pre-existent within the relevant region:

- A critical mass of small and medium agri-food businesses intent on finding means to circumvent large retail chains and set up alternative distribution channels.
- A critical mass of consumers who wish to purchase local food at low prices, while also increasing appreciation of the meanings and characteristics of specific foods.
- ICT infrastructure capable of facilitating e-commerce.
- And: ‘prevalent embedded inter-firm relationships characterised by [...]: trust, fine grained information transfer and joint problem solving arrangements (Volpentesta & Ammirato 2010, p. 322).’

When such factors are present, Volpentesta and Ammirato (2010, p. 319) propose that agri-food product transactions and information transactions can occur between a community of consumers and a community of producers linked through e-commerce. Importantly, the model includes a third entity referred to by Volpentesta and Ammirato (2010, p. 319) as the ‘Trusted Third Party’, which should enjoy equal trust from both the consumer group and the producer group. The four proposed roles of the Trusted Third Party are:

- **Technology intermediary**, providing and maintaining the e-commerce platform required for transactions.



- **Transaction intermediary**, providing application software, hosting, consultancy, coordination and management of the logistics chain. It also collects and structures producer offers by means of an e-catalogue, collects cumulative purchase orders from consumer groups, processes them to form purchase orders for agri-food producers and manages the payment system. Once goods arrive from producers, it packs them with respect to each consumer's group order and sends them to each customer group order pick up location.
- **Guarantee authority**, for the purposes of defining an ethical code and behavioural rules in the transaction process.
- **Infomediary**, provides internet tools to facilitate communication between and within the different groups (Volpentesta & Ammirato 2010, p. 322).

A small test of this model was carried out by Volpentesta and Ammirato in which they acted as the trusted third party, collaborating with a consumer food co-operative located at their institution, the University of Calabria, which acted as the consumer group. Two local farmer organisations were recruited to operate as the producer group. After trading around €3,000 worth of product, Volpentesta and Ammirato came to the conclusion that they were able to operate the system successfully while charging prices which were around 20-30% below the market average. If price reductions of this scale were available more broadly as a result of applying e-commerce technologies and methods to AFS, it would likely broaden the range of consumers accessing them.

However, the study by Volpentesta and Ammirato (2010) does not provide information on a number of factors which bear on the wider applicability of their model. For example, they do not disclose whether or not the trusted third party, which essentially filled the role of retailer in most food supply chains, was compensated for its large contribution to the exchange process; and if not, how such compensation would affect the viability of the model. In addition, the method used to conclude that the prices achieved were 20-30% below the market average was not discussed.

One difference between the Trusted Third Party concept proposed by Volpentesta and Ammirato and a conventional retailer, is the former's reliance on a significant amount of group formation and cohesion on the part of both consumers and producers. Such aggregation would likely have significant administrative and logistical efficiencies for the trusted third

party, as they are able to deal with two collective organisations, rather than a large number individual farmers and consumers for some tasks. However, there is no guarantee that either consumers or producers would easily form into such useful groups in all, or even most, regions.

One way to avoid the need for such group cohesion is to cut out the retail step in the supply chain and for producers to deal directly with the end consumer. This type of very direct e-commerce relationship is explored in research by Holloway (2002). Using a case study approach, Holloway considers two enterprises using the internet to give customers virtual experiences of food production, as well as access to quality food products. The first enterprise considered by Holloway (2002) connects consumers in London with a vegetable farm just outside the city, enabling them not just to receive food from the farm, but also to take control of their own vegetable plot in a virtual manner. Customers are able to exercise this control via the direction they give the grower online. These directions cover what should be grown on the plot, when to weed and harvest etc. For a monthly or annual fee, the customer also receives the vegetables harvested from their plot, as well as the enjoyment and knowledge associated with their involvement in the production process.

The second business considered by Holloway (2002, p. 74), enables customers to ‘adopt’ a dairy sheep on a farm in a mountainous region of Italy. The customer is then able to buy produce made with the milk of their adopted sheep, along with receiving detailed information about how the sheep is cared for. According to the proprietor of this business, the objective of the initiative is to give customers direct contact with the origin of their food and so increase their faith in its safety and quality.

In seeking to explain the appeal of these businesses, Holloway reflects that many people derive great pleasure from knowing where their food is produced, by whom and under what circumstances. Yet, Holloway also suggests that these internet mediated businesses may only be possible because people fear that they have lost all physical sense of engagement with food production and therefore consider a virtual form of engagement. According to Holloway (2002, p. 70), the two case studies investigated, suggest such virtual engagement is possible via ‘an assemblage of things held together by flows of food, products, money and electronic communication.’ If Holloway is correct and electronic communication can increase the connection between food producers and consumers in ways that create a deep sense of

engagement, it would suggest that e-commerce has significant implications for the further development of AFS.

In recognition of this potential, Holloway (2002) calls for further empirical research into internet mediated food supply networks. Specifically, Holloway (2002, p. 76) states that 'it would be valuable to examine who the customers are, understanding more of their lifestyles and identities and the ways in which participation 'fits' into them'. He also suggests further exploration is needed in terms of assessing how internet mediated food supply chains and networks enable 'localisation to be carried out at a distance [including] the production of relations of trust and responsibility, and the emergence of notions of quality, which rely on personal investment of the consumer in what is produced' (Holloway 2002, p. 77). While it has been a number of years since this call for further research was made, only limited progress has been made to date.

However, around the same time that Holloway made this call for further research, Leamer and Storper (2001, p. 10) were, conversely, highlighting the significance of direct face-to-face transactions in the formation of economically competitive clusters of firms in distinct geographic areas. Such places, according to Leamer and Storper (2001, p. 10), tend to have a 'buzz' associated with the interchange of rapidly changing ideas. Furthermore, proximity to such dynamic intellectual melting pots enables actors to reduce transaction costs, because in the words of Leamer and Storper (2001, p. 10): 'complex but understandable contracts can be written with a glance and sealed with a handshake.' Also, with particular relevance to AFS, they suggest some products can only be delivered, and value created, through direct interpersonal processes. This point is made by the authors (2001, p. 10) when they state: 'Many intellectual outputs are not products that can be dropped at the doorstep, but are services that have to be delivered by one human to another. Value is created jointly by seller and buyer, [...] often involving many hours of direct communication.' This joint value creation process, enacted by buyer and seller through face-to-face contact, is also one of the most singular features of farmers' markets.

According to Kirwan (2006, p. 303):

*In the case of farmers' markets, the producers and consumers concerned are engaging in face-to-face interaction in order to create conventions of exchange which incorporate spatial and social relationships that can replace*

*‘uniform [quality] standards’, with individualised judgement, thereby helping to overcome uncertainty.*

The mechanism by which face-to-face contact is able to engender trust and thereby reduce uncertainty and transactions costs, depends upon an awareness by both producers and consumers that when they interact at a reoccurring public event, like a farmers’ market – or indeed a bricks and mortar high street store - their ‘reputation assets are put at risk’ (Leamer & Storper 2001, p. 13). This is because a failure to comply with the terms of an agreement can easily become known to other actors who will then be less inclined to deal with the party who reneged, in the future. The risks associated with losing public respect, that is - *to lose face*, increases the level of trust between parties, which in turn provides real economic benefits through a lowering of transaction costs associated with uncertainty, including reduction in monitoring, compliance and enforcement costs. An example of how this may affect an agri-food market, is where a customer is willing to pay a price premium, similar in size to that commanded by an independently certified organic product, to a vendor at a farmers’ market, when the vendor can give a personal guarantee that the item is of equal or better quality than a certified organic product. In this example, the economic value created by the face-to-face exchange is equal to the cost of the organic certification process which was not required to produce the same level of trust. As previously stated, these benefits are not reserved for farmers’ markets, although, the fact the farmer is both the product producer and the final vendor is likely to engender greater trust, due to the fact the consumer can be more confident about the completeness of the vendor’s knowledge in relation to the production process.

Of course, attending a farmers’ market, or bricks and mortar store, to engage in one on one, face-to-face transactions involves costs for both producers and consumers. These costs include for example: the use of scarce temporal resources, the direct financial costs associated with getting to and from the market; and for the vendor, the cost of renting the retail space. According to Butler et al (2009), ICT, including the internet, holds great potential to reduce these costs. However, it is not clear if these technologies can provide the same level, or even the same type, of benefits attributed to physical face-to-face contact, and which are so important to AFS in the ‘interpersonal’ world of production (Leamer & Storper 2001; Storper & Salais 1997). This is because, somewhat paradoxically, it is in part the ‘substantial and transparent’ costs, which are mutually borne by individuals engaging in face-to-face contact, which ‘amount to a forfeitable bond that assures the validity of the message’, and so

engenders trust and lowered transaction costs (Leamer & Storper 2001, p. 13). Conversely, forms of communication and exchange carried out over the internet can be 'so efficient that it destroys the value of the message' (Leamer & Storper 2001, p. 14). This is significant for actors within AFS as consumers are often asked to make increasingly heterogeneous and context specific quality evaluations about food, and therefore must deal with higher levels of complexity and uncertainty. The trust created through face-to-face relationships is one way of dealing with these issues; for example, when a farmer explains her family's long standing and intimate involvement with a particular territorially unique production method. The ability to do this via the internet with the same effectiveness is less clear.

However, as the internet has matured and become more pervasive, some conclusions have been drawn about the ability to create a sense of engagement amongst and between food consumers and producers online. For example, Smith (2010, p. 1) argues that while information technologies such as: 'an iPhone app might help [consumers] navigate a world of [...] choices in a way that's more environmentally and nutritionally responsible, [consumers] are still seeking *real* community.' For Smith, the realness of a community is in part a function of its proximity, and presumably at least, the possibility of physical interpersonal contact. In this regard the often geographically proximate nature of many AFS production and consumption relationships may have an advantage over the more long distant supply chains mediated through e-commerce. That is, when a food product is bought online from a local farmer and a digital relationship formed, there is still a realistic possibility of the two individuals meeting in person and/or sharing a social network. This is less likely to be the case with food items bought online and then transported across long distances through complex supply chains. Therefore, e-commerce mediated AFS may still deliver additional value in this regard, relative to other e-commerce food retail formats, such as supermarkets which tend to mediate long distance supply chains.

There are other characteristics of e-commerce dependent food systems, particularly those capable of delivering assorted grocery items direct to consumers, which may favour firms with AFS characteristics. For example, Murphy (2003) conducted an empirical, case study based investigation of three online grocery delivery businesses and found that firms exhibiting AFS characteristics have greater capacity to organise consumers in ways that allow for efficient product delivery. Describing the reasons why the North American online grocery retailer SPUD is able to negotiate more efficient delivery times with their customers Murphy states:

A combination of causes is responsible for customer acceptance of the regimented delivery day: SPUD customers appear committed to the concept of organic food and to the organisation's stated goals of environmental and local socioeconomic sustainability, including the use of bicycles for delivery in areas surrounding the warehouse. These benefits do not seem to accrue to the organic offerings of supermarkets, and outweigh any perceived inconvenience of the inflexibility of day and time of delivery (Murphy 2003: p 1191).

Importantly, this suggests that the goodwill generated by certain behavioural characteristics of AFS firms may enable these firms to access unique efficiency gains, even while some of their defining activities are themselves *prima facie* economically inefficient. Furthermore, these potential efficiency gains may not be available to retailers like the dominant supermarkets, who *appear* more overtly focused on profit. According to Murphy (2003, p. 1196), this is because 'customers[...] seem willing to support SPUDs codified social and environmental objectives much more so than is the case for large chain food retailers.' That is, this particular online AFS firm has been able to leverage the goodwill of its customers to structure a more efficient e-commerce food logistics model than is possible for many of its competitors.

Given the high cost associated with operating a last mile delivery operation, particularly for bulky, highly perishable, low value items like food, having a more compliant customer base may have significant implications for delivery costs and therefore the final cost of the product. In a study exploring these potential efficiency gains, Michalak et al (2009) highlight the fact there is an information asymmetry inherent in much e-commerce, which means online retailers often know the location of all their customers, thus enabling them to exogenously group these customers based on geographic proximity. For example, this may mean a company will only deliver to a particular region when sufficient orders have been placed from that region such that they can deploy a fully loaded vehicle, or alternatively it may mean that customers are required to attend a specific drop off point within their neighbourhood at a set time. According to Michalak et al, the ability to coordinate delivery patterns in this way is likely to yield distribution costs savings of between 10-20%. Furthermore, they claim this type of efficiency gain reduces the need for firms to engage in profit destroying competition. Explaining the significance of logistics costs savings Michalak et al (2009, p. 3) state that:

*With intensifying competition retailers' mark-ups are naturally driven down [...]. While differentiation strategies constitute one way to overcome this shortcoming [...] they are costly and require considerable upfront (and sunk!) [sic] investment. This model suggests another way, i.e. benefitting from shipment cost reductions.*

Given that firms involved in AFS tend to be small entities pursuing a niche differentiation strategy, this potential efficiency gain is important, because it provides an avenue for reducing costs while not damaging their value added product offers. However, Michalak et al (2009) do point out that combined delivery shipments can have a negative effect on customers in-terms of delaying shipments while the retailer attempts to orchestrate an efficient coalition of deliveries in their area. Despite this, they believe the cost savings associated with combined delivery shipments, which presumably will at least in part be passed on the consumer, are more than large enough to compensate for the inconvenience.

The significance of these potential logistics savings for AFS is increased by the fact that, to a greater degree than other vendors more obviously in the market world of production, their customers place value on a sense of 'social-embeddedness – founded, or working on the principles of [...] community' (2006, p. 254). As such, AFS customers may actually view measures such as combined delivery shipments, which serve to link the local community, for example by requiring them to come together in the same physical space to await delivery of their orders, in positive terms rather than as an inconvenience. Therefore, e-commerce mediated AFS firms may be in a better position than other online food retailers to orchestrate efficient delivery. In turn, this may give them a commercial advantage and a means of lowering their prices and attracting a larger, more diverse customer base, than is the case for AFS which do not make significant use of e-commerce.

Indeed, according to Holt, the success of AFS will increasingly come to depend upon their having a sufficient level of electronic connectivity at the local level. If such connectivity is present Holt believes that 'it is possible that virtual [AFS] trading-posts could compete with the convenience of online services offered by supermarkets' (2007, p. 13). These trading posts, such as the business SPUD, considered by Murphy (2003), could serve as the aggregation sites that Anderson (2006) suggests are so important in making niche products accessible online. Highlighting the need for further research into these aggregation points is the following question from Holt (2007, p. 13): 'who would own them - corporations, the

state or a collective of traders?’ This as yet unanswered question evidences the broader need for more research into how e-commerce is changing AFS.

This chapter has highlighted that despite the growth of e-commerce in many industries the potential for change within the food retail environment has been uncertain, due largely to the failure of many early e-commerce food retailers. The failure of many of these early market entrants has been attributed to the difficult logistics task associated with connecting large numbers of consumers with products that are both of low individual item value, as well being very temperature and time sensitive. However, it seems that lessons have been learnt from these early failures and some firms are now making significant inroads with e-commerce food retail, including a number of entities displaying AFS characteristics. Indeed, certain attributes associated with AFS may in fact enable the use of more efficient product delivery measures. Nonetheless, significant questions remain as to whether e-commerce mediated AFS can really attract a broader range of consumers and continue to create value in ways that resonate with the domestics, civic and ecological convention of quality, which underpin the interpersonal world of production. That study investigates these significant questions.

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## **Chapter 5: Research methodology and methods**

The preceding chapters have demonstrated that AFS have emerged as a small but growing phenomenon across food production, retail and consumption markets, and as such, are now the subject of considerable interdisciplinary research. This study has also demonstrated that when viewed from a strategic management perspective, AFS are best understood as supply chains and networks comprising SMEs pursuing niche value added business strategies. The efficient coordination of these systems relies heavily on direct interpersonal relationships and ‘bundles’ of quality conventions associated with the interpersonal world of production (Storper & Salais 1997). To explore how e-commerce might be changing these qualities and consumer access to them, this study adopts a mixed research methodology to compare and contrast e-commerce and non e-commerce mediated AFS (also referred to as online and offline AFS for the sake of brevity) within two broadly similar locations. The principle research methods employed include: three in-depth case-studies of online AFS firms, a comparative survey of product prices as sold by offline and online AFS firms, and a survey of 375 online and offline AFS consumers. Analysis of the resulting data is designed to test the extent to which online and offline AFS differ in their application of ICT and e-commerce and how these differences correlate with changes to consumer demand and competitive practices as they relate to the maintenance of particular quality conventions.

The research methodology adopted within this study recognises the multiplicity of knowledge types required to answer the research question, and therefore employs mixed research methods (Hesse-Biber 2010; Taylor 2005). Mixed research methods are defined by Hesse-Biber (2006, p. 3) as those which ‘involve [...] the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study.’ The principle benefit of mixed methods, as applies to this study, is the ability to obtain complementary types of data. For example, the qualitative case study based methods are used to shed light on issues not covered by the qualitative survey data and vice versa. Also, while both approaches have weakness, they do not share the same weaknesses (Teddie & Tashakkori 2003). As a result, data obtained through these mixed research methods can be triangulated against the other, in the sense that qualitative and quantitative results can be compared in an effort to help establish the validity of the other (White 2011).

The researcher is aware however, that the mixing of qualitative and quantitative research methods is not without difficulties and may in fact be viewed negatively as confusing divergent and incompatible ontological and epistemological paradigms (Lincoln & Guba 1985; Sale, Lohfeld & Brazil 2002). Quantitative methods are underpinned by a positivist world view which understands knowledge as comprised of definable truths which are ‘out there’ awaiting discovery and which can be proven to within knowable degrees of certainty (Lincoln & Guba 1985; Molina Azorin & Cameron 2010). Conversely, qualitative methods attempt to access ‘constructed’ knowledge, while remaining cognisant of myriad and potentially conflicting subjective realities (Brynjolfsson, Hu & Simester 2011; Molina Azorin & Cameron 2010; Taylor 2005). As such, quantitative and qualitative research methods are based on different ontological and epistemological world views. Indeed, according to some authors, the different beliefs about what constitutes knowledge and the relationship of the inquirer to that knowledge which separately underpin qualitative and quantitative research, are so great that ‘the two paradigms are incompatible’ (Sale, Lohfeld & Brazil 2002, p. 46). This is in large part, according to Sale, Lohfeld and Brazil (2002, p. 46) because ‘the qualitative paradigm assumes that there are no external referents for understanding reality’ and thereby disavows claims of access to universal truth on the part of quantitative research.

Despite these differences, the application of mixed methods has grown in recent years (Molina Azorin & Cameron 2010; Onwuegbuzie & Leech 2004; Tashakkori & Teddie 2003). In tandem with this increased application, attempts have been made to explain an ontological and epistemological foundation of mixed methods capable of overcoming claims they are incompatible (Onwuegbuzie & Leech 2004). Such attempts have tended to be pragmatic in nature, holding that ‘epistemology does not dictate which specific data collection and data analytical tools should be used by researchers’ and that the perception that this is the case has more to do with a long established, but ‘divisive and counter-productive’, debate between entrenched qualitative and quantitative researchers (Onwuegbuzie & Leech 2004, p. 376). According to Onwuegbuzie and Leech (2004), such debates tend to exaggerate differences and ignore similarities, avoiding for example, insights such as that provided by Kaplan (1964, p. 207) who states: ‘quantities are of qualities, and a measured quality has just the magnitude expressed in its measures’. According to this point of view, which is adopted within this study, the choice of research method is ultimately one of pragmatism and ensuring that the research objective is accomplished with a high degree of completeness.

The nature of the research question developed in this study calls for exploratory data about practices and motivations of both individual firm actors and individual consumers, as well as an understanding of broader changes that are taking place in relation to product pricing and consumer demographics. Therefore the quantitative methods used in this study are designed to elicit findings which shed light on the broadly occurring *actuality* of business outcomes, such as relative product pricing and consumer demographics. The qualitative methods are designed to provide insight into the subjective and more in-depth lived experiences of the business actors and consumers within specific AFS, including the ways they conjointly negotiate and understand quality conventions in relation to products and business processes.

Comparing this qualitative and quantitative data is useful for contextualising and testing results in a process of triangulation (White 2011). For example, actors within online AFS firms may feel that their investment in ICT has enabled them to deliver more competitively priced products than offline vendors. A quantitative assessment of actual prices between online and offline vendors is therefore useful for the purposes of assessing the validity of such claims.

The qualitative open response nature of some survey questions also provides a voice to consumers, which is complimentary to that of business actors, thus giving consumers an opportunity to raise concerns and interests which are significant within that group, but which may be unknown or unimportant to business actors (Hesse-Biber 2010). This attempt to value the lived experiences and practices of consumers follows a developing consumption focused research current in agri-food studies, which aims to broaden the loci of food systems enquiry from more structural critiques, so that the agency of consumers is increasingly recognised (Kirwan & Snee 2007; Niles & Roff 2008). This focus on the experience of consumers is particularly important within studies of AFS, of which a principle feature is a shortening of the physical and cognitive distance between food producers and consumers (Lockie & Pritchard 2001).

This recognition of the contingent role of consumers in shaping the practices of both individual firms and complex multi-firm networks has also increased within organisational science and information systems literature (Pitt et al. 2002; Rodriguez-Ardura, Martinez-Lopez & Luma 2009). However, the power of consumers is accentuated by the number of people holding a particular point of view or practicing a particular action. As such, a quantitative assessment of the prevalence of particular opinions and behaviours is also useful

in terms of discussing how these opinions and actions, if broadly shared or practiced, may influence the uptake of a particular innovation at the level of the firm.

At the same time, the ability of a firm, or network of firms, to embrace ICT related innovation is dependent both on the broad structural and competitive environment, as well as the particularities of individual enterprise models and the lived experience of individual decision makers. Decision makers, especially those in senior management positions, have the ability to exert considerable control over the uptake of a particular innovation. Therefore, a more in-depth qualitative case study approach, involving both semi-structured interviews with senior staff, and on the ground site visits by the researcher, was chosen to access information on how ICT is being used and why, as well as how it was not being used and why.

Thus, within this study the emphasis placed on qualitative research methods is upon gaining insight into the actions of pivotal AFS aggregation firms, particularly in relation to their use of ICT and e-commerce. This information works in tandem with the quantitative data gathered via two survey instruments: the first of which gathered price data from both the online AFS case study firms and co-located farmers' markets, while the second survey gathered a broad range of data from both online and offline AFS consumers. While the data gathered as part of the customer survey is quantitative in the sense that a statistically significant number of consumers across two independent samples were asked a series of identical, often multiple choice type questions, the survey instrument also provided consumers with opportunities to express highly personalised, or subjective, opinions via open questions. The answers to these questions give a more qualitative insight into the lived experiences of consumers than do the bald numbers associated with, for example, their demographic profile or average financial expenditure on groceries. In this manner this research approach recognises the contested and negotiated processes by which value is created and quality understood within AFS.

Within this study farmers' markets are chosen as the locus of enquiry when seeking to determine the attitudes, practices and attributes of offline AFS. As previously stated, farmers' markets are not the only significant example of an AFS retail space. Other examples include, but are not limited to, consumer owned food co-operatives, community supported agriculture projects and farmer/producer co-operatives aimed at marketing products with unique cultural and environmental significance. While a limited range of such AFS retail points does exist

within the study sites under consideration, evidence exists to suggest farmers' markets are more numerous and growing at a faster pace (Adams 2011; US Dept. of Agriculture 2011), than other AFS retail sites such as consumer co-operatives (Balnave & Patmore 2012).

Furthermore, farmers' markets more clearly promote two central AFS attributes than do other potential AFS study sites, such as food co-operatives and other specialist retailers. Firstly, most farmers' market organisations require that food sold in their market must be produced within a limited geographical catchment area. According to Kirwan (2004, p. 396) this focus on local food at farmers' markets contributes to a 're-spatialising' of food, by which consumers are brought into greater contact with their surrounding environment, including for example, a greater awareness of the productive limits of that environment. The second AFS attribute demonstrated by farmers' markets is their ability to 're-socialize' food (Kirwan 2004, p. 396), via the common stipulation that farmers, or those engaged in growing and producing the food product, must actually conduct the transaction with the final consumer. This dynamic presents more opportunities for relationship building between consumers and the producers of their food than is the case with food co-operatives for example, where only a limited number of staff or volunteers are likely to deal directly with farmers and producers.

This latter attribute, in addition to the relative popularity of farmers' markets, is the prime reason they have been chosen as the sole comparator against online AFS. This is because the face-to-face relationships between farmer and consumers, available at farmers' markets, presents both contrasts and similarities to online shopping which are not evident in other AFS retail formats. For example, consumers are likely to discern a contrast between the experience of shopping quickly online, to that obtained via a languid and conversation filled trip to a farmers' market. Yet at the same time, online shopping does, at least technically, present opportunities for consumers to engage one on one with farmers via relatively low cost and convenient interactive means. Thus farmers' markets share both similarities with online AFS, not present in other AFS retail formats like consumer co-operatives, while also presenting the clearest contrasts.

This is not to say that the research aims of this study could not have been answered more completely, had other offline AFS been included within the study. However, given the existence of resource constraints and the fact farmers' markets do on their own provide a significant point of comparison, this study proceeds with this methodological limitation in place.

Notwithstanding this limitation, the statistical analysis used to interpret the survey data gathered from offline farmers' market customer and online AFS consumers, proceeds from the assumption that online AFS shoppers and farmers' market shoppers who do not use online AFS retailers are in fact independent samples drawn from the same population. The samples are drawn from the same population in the sense that they are all AFS participants because they purchase local food through mediums which give them some level of direct access to the producer, and which have varying levels of commitment to social purpose objectives. The samples are independent in that one group use online AFS retailers and the other group does not. This is not to say that those consumers who use online AFS retailers do not also use farmers' markets. Indeed, four online AFS shoppers were surveyed at farmers' markets in Vancouver. However, these respondents have been allocated to the online AFS shopper sample, rather than the farmers' market cohort, thus ensuring that only consumers who do not use online AFS are allocated to the offline farmers' market sample.

## **Case Studies**

For the purposes of this research the main unit of analysis when considering online AFS is the individual firm. However, those online AFS firms chosen for in depth consideration all act as hubs within broader supply chains or networks, in a similar way as do farmers' markets, due to their role in aggregating locally produced organic food items prior to acquisition by the end consumers. While the aggregation of products and services, and their distribution to final consumers is the economic *raison d'être* of all retail firms, the term aggregator, rather than retailer, is preferred within this study (Betancourt & Gautschi 1988). This is because the term aggregator better reflects the tendency toward disintermediation within AFS supply chains, which frequently involves producers and consumers conducting direct exchanges with one another without mediation by a third party (Venn et al. 2006). When this happens, as when a farmer deals with a consumer owned co-operative business, or when a consumers buys from the farmer at a farmers' market, the act of aggregating many food items together remains salient; given the generally low value of individual food items relative to the cost of distributing that item individually; yet there is no third party retailer. Rather, in these examples the aggregation task is being conducted either by the producer or the consumer, or an organisation directly owned by either party. Thus, the term aggregator is used because it can encompass a wider understanding of how the transfer of products takes place, while remaining inclusive of firms which fit a more conventional definition of a third party retailer.

The designation of the online AFS firms investigated in this study as aggregators also helps to explain their direct comparison to farmers' markets within this study. Certainly there are significant differences between the two comparators. Chief among them being that the online AFS firms consider here all, to a greater or lesser degree, aggregate products within the confines of a definite, legally constituted, firm boundary; although two of the firms are not-for-profit entities whose primary stakeholders are either their customers or suppliers. Conversely farmers' markets exist primarily as facilitators of trade, with the body organising the market never actually taking legal possession of the products being traded. Despite this difference, the case study firms investigated are considered comparable because all three fulfil the same critical product aggregation and producer/consumer connection function as farmers' markets. That is, the case study firms and farmers' market are comparable analytical units in that they are both critical supply chain nodes through which many individual food items, produced by many small producers, are physically - if not legally in the sense of ownership - aggregated for the purpose of reducing the logistics costs associated with transporting these numerous, but relatively low value, items to consumers.

All primary data collection for this study took place across two study sites: the first being the city of Vancouver in Canada, and the second being the city of Melbourne in Australia. These study sites were chosen for three reasons. Firstly, they were identified in an initial internet search as locations which hosted both established online AFS aggregation firms, as well as a number of farmers' markets. Secondly, both locations share many characteristics in common, including the fact they are both large urban centres with high levels of affluence and public service provision (Economist Intelligence Unit 2011). The similarity between these sites enables the data to be reasonably compared, thus improving the validity of the study findings. Lastly, both cities are located within countries which are committed to the type of scale orientated, high efficiency food production and retail systems which are characteristic of the conventional food system (The Cairns Group 2012). As such, an examination of price based competition and changed agri-food quality conventions in this environment is more likely to identify the competitive pressures which these conventional food systems place on AFS, both online and offline.

Significantly however, this study did not directly investigate large scale mainstream food systems, either in terms of investigating firm level use of ICT and e-commerce, or the actions and motivations of their customers. This is acknowledged as a limitation of this study as such information would enable a discussion of the relative scale of any changes identified between

online and offline AFS, including prices, consumer demographics and quality conventions adhered to. However, due to resource constraints it has not been possible to obtain case study data from any of the national food retail chains which operate in either case study locations, or to survey their customers. Despite this limitation, the research methodology employed in this study is capable of identifying changes in AFS which are correlated with the use of e-commerce, if not quantifying the extent to which those changes 'conventionalise' AFS in terms of them adopting quality conventions which are associated with the mainstream food system.

The online AFS aggregation firms investigated were chosen both due to their critical position as aggregators within local organic food supply chains and also due to their reliance on the internet as the predominant means by which they sell products to end consumers. Initially one case study firm was identified within each study location. The choice of these two case study firms was dictated by the desire to investigate both a globally significant online AFS firm, in terms of its scale and level of development, as well as a domestic Australian case, amenable to more sustained and culturally sensitive investigation (Simons 2009). However, subsequent to the commencement of the case study in Vancouver a second online AFS aggregation firm was identified in that city which usefully represented a different scale of entity than was the case with the two previously identified firms. As such, this smaller Vancouver based firm was investigated as an additional case study, meaning two case studies were undertaken in Vancouver and one in Melbourne. The names of all case study firms and their employees have been replaced by pseudonyms within this study.

## **Vancouver**

The Initial Vancouver case study focused on an online vendor of local organic food called Fresh Food Here (hereafter FFH). This business was chosen after internet research suggested it is one of the largest organisations in the English speaking world to use the internet as the primary means of selling and delivering locally produced organic foods, while also maintaining an overt commitment to social purpose objectives. FFH is a for-profit business which operates across six locations in North America and services approximately 19,000 customers per week. At the time of investigation the company has an average of 1500 customers per week in the Vancouver area. Despite the extended geographic reach of this business, their business model is such that while customers use the one website to order and purchase food, all food available to customers is specific to their particular location. For



example, all bread items sold in San Francisco are produced by small independent bakeries in that city, while all bread ordered by Vancouver residents originates from there. This is despite the fact that all loaves will have been ordered from the same website which is administered in Vancouver.

While in Vancouver, the opportunity also arose for the researcher to investigate a small co-operatively owned competitor to FFH, called Fresh BC, which also provides an online local/organic food ordering and delivery service. Fresh BC has approximately 200 members and was chosen due the fact it is co-located in the Vancouver study site and used a similar business model to FFH, but could be contrasted by the fact it is a small, co-operatively owned entity.

In addition to the investigation of these two primary case study firms, information was gathered in relation to the operation of farmers' markets in the Vancouver area, including in relation to their use of e-commerce. This information was gathered via one informal interview with the general manager of the Vancouver Farmers' Market Association and field notes taken while attending the four Vancouver farmers' markets.

Six semi-structured interviews were undertaken with FFH employees at their Vancouver head office, including two sessions with the proprietor and CEO of the business and one interview each with the following staff: Vice President, Marketing Manager, Website Manager and Warehouse Operations Manager. Three semi-structured interviews were undertaken with the management team at Fresh BC including with their General Manager, Volunteer Co-ordinator and Operations Manager. One interview was also undertaken with the General Manager of the Vancouver Farmers' Market Association.

In person interviews were arranged subsequent to an introductory email sent by the researcher, along with an information sheet (Appendix A) as stipulated within the ethics approval process covering this study. All interviews with employees of the case study firms were semi-structured, using the same 24 question interview schedule as the basis for the interview (Appendix C). Additional questions were always asked when relevant, based on the response of the interviewee. Semi-structured interviews were chosen with the expectation that the respondents use and understanding of the role of the internet and ICT may be unique and rapidly changing. In this dynamic environment a fully structured interview was deemed to be less likely to be effective at eliciting the particularities of how the case study organisation employed the technology (Grey 2004).

All interviews in Vancouver were conducted one on one between the interviewer and the interviewee during a three week period in August 2011. All interviews undertaken with FFH staff were conducted in a designated meeting room in the FFH head office, while two of the three Fresh BC interviews took place in a café, the remaining interview being conducted at the Fresh BC warehouse. The one interview undertaken with the General Manager of the Vancouver Farmers' Market Association was conducted at a farmers' market. While the researcher took some hand written notes while conducting these interviews, all interviews were openly recorded using a digital recording device, subsequent to permission being granted by the interviewee. The notes taken during the interview process were useful for guiding subsequent interviews conducted in quick succession, in that when responses to a particular question by one respondent raised questions which they could not adequately answer, these questions could then be posed to subsequent interviewees,.

In addition to the formal interview process, the researcher took field notes throughout the period he was in Vancouver, as well as taking over 50 photographs. Field notes and photographs were recorded to enable a more holistic sense of the researcher's experiences within the case study environment, as well as to capture details of specific items or issues of interest that emerged outside of the interview setting (Grey 2004; Simons 2009). For example, numerous photographs were taken of both FFH and Fresh BC's produce packing operations, as well as at co-located farmers' markets.

## **Melbourne**

The Melbourne based case study focused on the not-for-profit business Gaia's Table which like both FFH and Fresh BC, is an internet dependent retailer of local, organic food. However, unlike the other case study firms, Gaia's Table is a subsidiary of a larger organisation, that being the not-for-profit environmental education organisation known as Gaia. Gaia's Table is one of the larger online retailers of locally grown organic foods in Melbourne, and serviced around 600 customers per week at the time of investigation. Five semi-structured interviews were undertaken with Gaia's Table staff. These interviews involved two sessions with their Internet Marketing Manager, one session with their Packing and Logistics Manager and two sessions with management staff within the parent organisation Gaia. All interviews were taped using a digital voice recorder.

In addition to the interviews undertaken with Gaia's Table staff, one interview was conducted with the General Manager of the Victorian Farmers' Market Association which organises the Melbourne based farmers' markets visited as part of this research.

As well as recorded interview data, field notes and photographs were also taken for the purpose of providing contextualisation for the interview data.

## **Consumer Surveys**

In addition to the qualitative investigation of the individual case study businesses, a quantitative survey instrument was employed to gather information from both online consumers using the case study businesses and offline customers of co-located farmers' markets. The purpose of this survey was to compare the behaviours, motivations and demographics of consumers using either internet mediated AFS or more traditional offline AFS formats, in this case farmers' markets.

The survey instrument used for online customers and farmers' markets customers was based on an instrument developed by Connell and Smithers (2008) for their investigation of shopping motivations amongst farmers' market shoppers in British Columbia. The initial intent of using the instrument developed by Connell and Smithers was both that it addressed a number of issues relevant to this study, but also that it presented an opportunity for longitudinal analysis given that respondents were drawn from a number of the same farmers' markets in both studies. Ultimately however, the goals of this study necessitated a number of alterations which limited the ability to make direct comparisons with the Connell and Smithers study. Changes included lengthening the survey from 11 to 15 questions, including the addition of two open questions, which enabled consumers to provide extended responses in their own words.

The survey instruments used to survey both online and offline consumers' in this study is very similar, with 13 of the 15 questions shared in common. Questions that were not shared in common related to the specific attributes of the shopping format. For example, farmers' market customers were asked if they had internet access at home and also to nominate if they had shopped for food online before. These questions were not considered relevant for the online consumers.

The aim of the surveys for both online consumers and farmers' market consumers was to provide insight into the following three issues:

- Food shopping practices

Relevant questions are intended to yield information about how often shoppers use different types of food retail format, how much money they spent there, how much time they spent shopping for food and what role the internet played in their food shopping activity. The objective of these questions being to determine if e-commerce mediated AFS formats are leading consumers to spend more money in a given period, as well as changing the frequency of shopping they do through the different formats. The question dealing specifically with the length of time taken to complete the shopping task gives insight into the relative convenience of the different formats.

- Motivations

Questions relating to consumer motivation give insight into why different people use different types of food retail format, as well as how they understand quality in relation to a variety of social, ethical and environmental concerns when they shop for individual food items. This information provides an opportunity to compare how the motivations of consumers using the different formats, do or do not accord with those quality conventions identified within the AFS literature, as well as how they compare with one another. Congruence between consumer motivations across both retail formats and AFS literature is taken as a sign that AFS in general may develop readily down an e-commerce facilitated path, without a conventionalisation of quality conventions.

- Demographics

A range of personal information was gathered about individual consumers and their households. Information such as sex, age, income and education level was gathered and compared across both online and offline consumers in an attempt to determine statistical correlation between consumer choice of retail format and particular demographic characteristics. The objective of these questions is to examine if e-commerce mediated AFS formats are appealing to a different and/or broader demographic consumer base than established AFS formats such as farmers' markets.

## **Survey deployment**

In addition to the content changes made to the survey instrument developed by Connell and Smithers (2008), this study also administered the survey in a significantly different manner to that employed by Connell and Smithers. These changes were necessitated by two issues. Firstly, this study required information to be gathered not just from farmers' market participants, but also online shoppers. Secondly, the researcher required more in-depth information from respondents than was readily attainable using the surveying technique employed by Connell and Smithers.

While the Connell and Smithers study sought primarily to examine the motivations of farmers' market customers, this study is more comparative in nature and required the gathering of data from online food shoppers as well. As such, the researcher chose to deploy the survey instrument via the internet in order to gathering data for online food shoppers. Specifically, the survey was administered by the online survey tool Survey Monkey. Respondents were promoted to visit the Survey Monkey website and complete the survey via correspondence from a staff member within each of the online case study firms. This correspondence comprised both a banner advertisement posted on the organisations website, as well as a request listed in their email newsletters. In both instances these communications clearly identified the nature and purpose of the research as well as the name and institution of the researcher.

Prior to being able to undertake the survey, online respondents were required to read and acknowledge an online, University of Tasmania ethics committee sanctioned, information sheet. Completion of the online survey took approximately 10 minutes, and Survey Monkey software ensured that the survey could only be taken once from any one computer, thus limiting the chance of multiple responses from the one respondent.

The data gathering technique employed for farmers' market respondents also differed to that used by Connell and Smithers (2008), in that this study did not use the 'rapid market assessment' technique developed by Lev, Brewer and Stephenson (2004). The rapid market assessment technique was developed specifically for gathering data from open air markets such as farmers' markets. Researchers using this technique employ large format flip charts to display a limited number of multiple choice questions which respondents answer via the placement of adhesive dots. This technique is intended to be quick for respondents to complete as well as adding an element of fun, both attributes being likely to increase

participation rates (Lev, Brewer & Stephenson 2004). While this technique was considered for this study, it was not used as the researcher made the decision that a more in-depth survey, which included open questions, was required. According to Lev et al, the rapid market assessment tool is not suitable for extended surveys or for open questions. As such a more conventional interview technique, with the interviewer engaging directly with the respondent, was used within this study when gathering survey data from farmers' market respondents.

The data gathering technique employed at farmers' markets first required the researcher to gain permission from the market organisers to set up a survey post near the entrance of each market. This survey post consisted of a sign advertising that the researcher was from the University of Tasmania and was conducting research on farmers' markets. Given that both study locations are geographically removed from Tasmania, the mention of this institution seemed to prompt people to engage with the researcher beyond any initial interest in the topic of farmers' markets. Once introduced, the researcher informed the potential respondent of the nature and purpose of the research and sought their consent to participate. Each market was visited twice during consecutive weeks and all surveys were carried out during these periods. Because most markets had two primary entry points, the survey post was placed at different entry points during separate visits by the researcher to obtain responses from shoppers likely emanating from different locations.

While the farmers' market respondent recruitment process used within this study yielded more in depth information than would have been possible had the rapid market assessment tool been used, the technique employed in this study is more vulnerable to selection bias. In particular, participants who had less time to participate, such as parents accompanied by their children, may have been less likely to participate. Furthermore, while this data gathering method was deemed critical to accessing the rich in-depth information required, it is acknowledged that other more random approaches to sample selection are possible. For example the researcher could have directly approached respondents at the market on the basis of a randomly generated number sequence. However, the basis upon which institutional ethics approval was awarded for this research project stipulated that respondent not be subjected to an unsolicited approach, but rather they be given the opportunity to approach the researcher of their own volition. The reasoning behind this decision being that an unsolicited face-to-face approach may diminish a respondent's ability to provide informed consent, free from any form of coercion.

However, attempts have been made to mitigate the effects of selection bias on the results of this study. This has been done by conducting a subsequent count of 1356 attendees at the Melbourne farmers' markets examined in this study, with the aim of establishing the proportion of shoppers attending with children, farmers' market attendees accompanied by children being those considered least likely to participate due to time constraints and general inconvenience. The intention of this count was to establish if a significant shortfall was evident between the total number of people attending with children and the number of respondents surveyed with children, such that the survey results could be weighted to correct for any shortfall observed. Pleasingly however, no shortfall was evident after making this secondary observation with only 24.7% of attendees accompanied by children, compared with 37.9% of survey respondents stating they lived in a household with children. While this method of testing for selection bias does not guarantee that all attendees with children will be observed it does at least assure that the number of people attending farmers' markets with children is not higher than number of respondents reporting that they live with children. As such the survey results were not weighted.

## **Location of study sites**

### **Vancouver**

A total of 182 surveys were completed in the Vancouver area, comprising 107 responses from FFH and Fresh BC customers and 76 responses from customers at four farmers' markets.

While Fresh BC and FFH differ in terms of their ownership structure and scale, their product offer and service models are sufficiently similar that survey results originating from customers of either business are considered equivalent in terms of representing the behaviours, opinions and characteristics of internet mediated AFS customers. As such, survey responses from both FFH and Fresh BC are considered in tandem, thus increasing the overall sample size and validity of statistical models used for quantitative analysis. A total of 76 FFH customers and 31 Fresh BC customers completed the survey.

Farmers' market respondents were surveyed by the researcher in person at each of four farmers' markets within an 8km radius of the Vancouver CBD. These markets are all held outdoors on a weekly basis between the months of May and October. All four markets are organised and run by the non-government and not-for-profit organisation, *Vancouver*

*Farmers' Market Association*. Vancouver has up to eight farmers' markets operating during any given week between May and October, although the number of markets varies according to the time of year and how the boarder of Vancouver city is defined. The choice of which markets customers would be drawn from was made on the basis of the size and evenly dispersed geographic position of the four markets investigated.

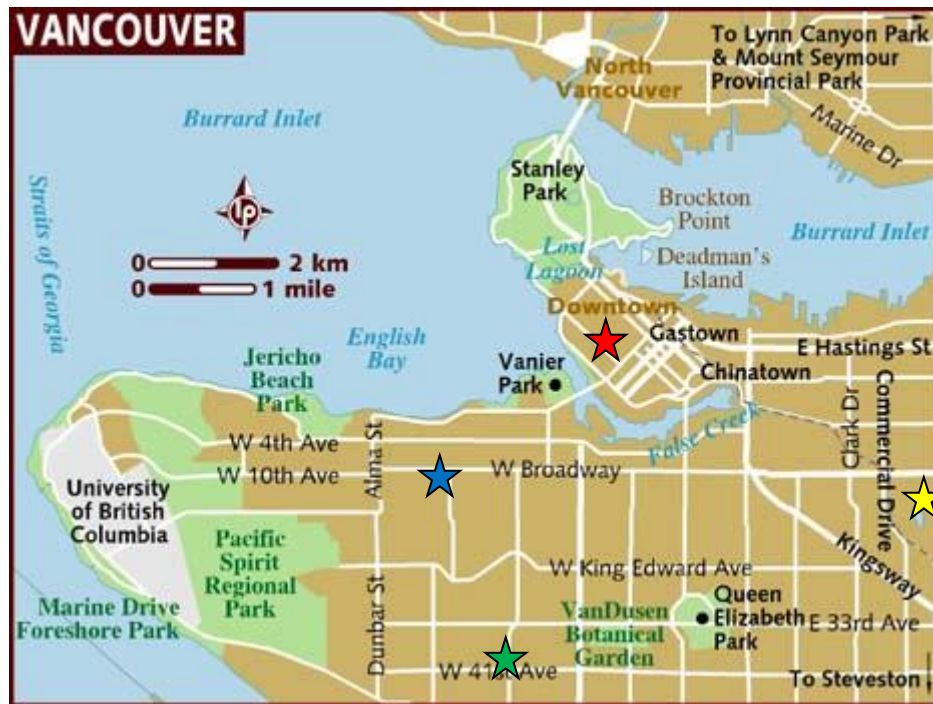


Figure 12: Location of Vancouver farmers' market included in study

Table 3: Vancouver farmers' markets opening hours and number of respondents

	Trout Creek	Kitsilano	West End	Oak St
Map Key	★	★	★	★
Market Day	Saturday	Sunday	Saturday	Wednesday
Opening hours	9am-2pm	10am-2pm	10am-2pm	3pm-7pm
N = 76	22	23	15	16

Also, because the intention of surveying these customers was to contrast their experience against online AFS customers, the use of face-to-face researcher administered survey methods was deemed more likely to access respondents who did not engage in online food



shopping. However, when the interviewer administered the survey, a conscious effort was made to ask only those questions on the survey schedule and use only the language contained in the schedule to ensure that, as much as possible, the information obtained by both the researcher administered and respondent administered surveys was comparable (Sapsford & Jupp 2006).

Attempts were made by the researcher to access a representative cross section of farmers' market customers. This included positioning the survey post near all major entrance and exit point for a period of time, in an attempt to minimise bias associated with the direction of travel taken by respondents i.e. towards suburbs with significantly different socio-economic profiles. Also, the researcher remained present throughout the duration of the market to ensure that respondents who used the market at different times of day, due to different characteristics or practices, all had an equal opportunity to participate.

## **Melbourne**

A total of 120 Gaia's Table customers completed the survey using the online tool Survey Monkey. The survey used for these consumers was the same as that used for the FFH and Fresh BC consumers in Vancouver. Respondents of this survey were also contacted via a similar method, with Gaia's Table staff including a call to participate within their regular email newsletter. Although, rather than placing an advert within the Gaia's Table website, a request to participate was communicated via the Gaia's Table page on the social media website Facebook.

In addition to the Gaia's Table respondents, 76 farmers' market customers also completed the survey in the Melbourne study site. The collection of data from consumers at Melbourne farmers' markets was conducted in the same manner as that carried out in Vancouver. However this data gathering task was more challenging in Melbourne than was the case in Vancouver because most farmers' markets in Melbourne occur monthly rather than weekly. This means fewer markets, and therefore respondents, were available to complete the survey in the time available for data collection. This factor also influenced the choice of which markets were selected as survey locations. All markets which occurred within the four week window allocated for data collection and which were also within the drop off zone of Gaia's Table were included in the study.

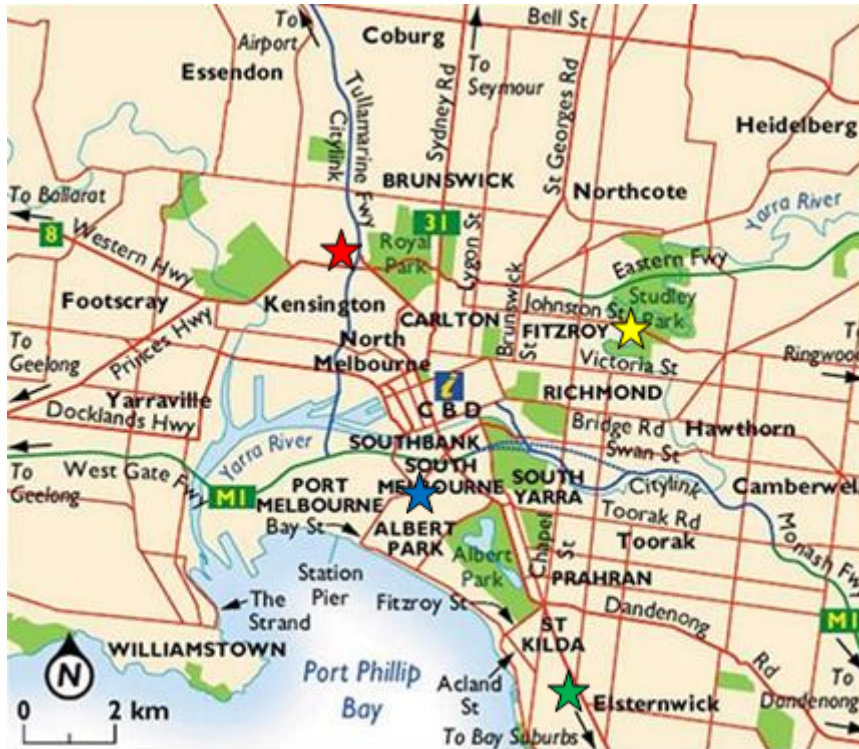


Figure 13: Location of Melbourne farmers' markets included in study

Table 4: Melbourne farmers' market opening hours and number of respondents

	Flemington	Collingwood Childrens' Farm	Gas Works	St Kilda
Map Key	★	★	★	★
Market Day	Sunday	2 <sup>nd</sup> Saturday	4 <sup>th</sup> Sunday	1 <sup>st</sup> Saturday
Opening hours	9am-1pm	9am-2pm	8am-1pm	8.30am-1pm
N = 76	17	21	18	20

The geographical spread of the Melbourne based farmers' markets was similar in both Vancouver and Melbourne.

## Price Survey

In addition to the in-depth, qualitative interview data obtained from organisational actors and quantitative survey data obtained from consumers, a multi-location price survey was undertaken to determine the relative prices of food items sold across the two retail formats – that is by online AFS aggregators and offline farmers' markets. This survey involved logging

price data on specific products at farmers' markets from which survey respondents were drawn and comparing this data with prices advertised by case study businesses on the same day. By comparing prices on the same day, the risk that environmental factors such as storm damage or specific demand increases, such as those associated with holidays, impacting the comparison were minimised.

Within each study site prices were recorded from multiple farmers' markets for the same product, with the average price from these multiple sites being used as representative of farmers' market pricing. This was done to minimise the effect of price variance associated with the location of the market i.e. either within an affluent area or poor area.

All prices were compared on cost per kilo basis. Within Vancouver, the price of 25 products was compared. In Melbourne, 17 products were compared. These numbers do not represent the total number of products sold by either the farmers' markets or firms under consideration, nor does it accurately represent the extent to which these mediums sell similar products. Rather, the limited number of product prices compared reflects the fact that many products are not sold by weight, but rather by unit, which is often of variable and unknown quantity. For example, it is difficult to compare the price of a single head of cabbage or a bunch of kale, where no weight is given. As such the number of products compared represents the number of comparable products sold by weight by both the online and offline vendors.

## **Data analysis**

Qualitative data gathered during this research comprises a mix of textual data derived from in-depth interviews with business actors, as well as field notes and photographs compiled by the researcher when conducting field visits. In addition, a range of numerical data was obtained from customer surveys and a price comparison of the primary case study businesses and co-located farmers' markets. This textual and numeric data is amenable to multiple analysis techniques, the combination of which is capable of answering the research question.

### **Semi-structured interviews with organisational actors, and field notes.**

The first step in the analysis of qualitative data gathered for this study involved the researcher transcribing digital recordings of the semi-structured interviews conducted. Interviews were transcribed one case study at a time rather than in the chronological order in which they were recorded. Transcription was carried out in this manner so that the repetition of themes within

particular case studies could be readily identified. During this process of transcription the researcher was careful to ensure that as much information as possible was recorded, for example instances in which respondents laughed about a particular question, or paused for a long time were noted in the interview transcript. This information was then useful in terms of ensuring that the intent or tone of the subject's response was included in the subsequent analysis (Sapsford & Jupp 2006).

Once transcribed, the interview data was analysed via a process of active reading, whereby the researcher approached the text with a focused idea about the research topic and the research questions to be answered, while at the same time remaining alert to any new or unexpected issues which might emerge from the transcript (Day 1993; Sapsford & Jupp 2006). As part of this active reading process, field notes and documents in the form of company websites and photographs taken by the researcher during field visits were also reviewed. By reviewing this material, elements that may have been noted by the researcher in the initial interview, but which were not featured in the transcription, were included. Also, reference to the photographs compiled during the site visit was considered useful in terms of contextualising and possibly clarifying ambiguous comments by interview subjects, for example, when an interviewee refers to a particular piece of equipment which the researcher had also photographed.

The next step in the qualitative analysis process used in this research is the adding of additional structure to the data via a process of classification or coding. This involves the creation of categories within the data, the definition and boundaries of which are re-examined, refined and compared as new categories emerge. This classification process is described by Day (1993, p. 30) 'as resolving data into its constituent components to reveal its characteristic elements and structure.' The goal of this process was to describe the phenomenon under consideration, to the point at which the interaction of its constituent parts could be considered.

However, rather than solely relying on the data to suggest categories or codes, there is need to approach qualitative data, such as interview transcripts and field notes, with some pre informed concepts relating to the research question under consideration. This is because, according to Sapsford and Jupp (2006, p. 170) 'variables and categories are constructs and are not just 'out there' with their own independent existence'. That is, while the 'who' 'what' 'where' 'when' and 'why' of the data certainly exists in its own right, making sense of this

information in relation to the research question requires that the researcher also think about the ‘research context, or [...] appropriate external reality’ , (Sapsford & Jupp 2006, p. 171).

For this purpose an initial categorisation or coding schema, shown in Table 5, was developed. This schema is informed by, and rooted in, the conceptual foundations of the research question; however, it is primarily intended to capture the empirical realities of the data.

Table 5: Initial coding schema for case study data

1. Organisational structure	b. Warehousing/delivery
2. Financial information	11. Marketing
3. History of organisation	a. Partnerships
4. Goals of organisation	b. Products
5. Size of organisation	c. Customers
6. Ethics of organisation	d. Convenience
a. Environmental	e. Price
b. Social	f. The role of information
c. Economic	g. Choice
7. Relationship to AFS Literature	12. E-commerce
a. Local	a. Online groceries
b. Environment	b. Role of information
c. Organic	c. Website
d. Social	d. Social Media
e. Relationships	13. Challenges
f. Farmers	a. Quality control
g. Farmers’ markets	b. Customer retention
h. Conventionalisation	
i. Scale	
j. Consumer Agency	
8. Use of technology	
9. Business strategy	
10. Operations	
a. Products	

The next step in the analysis process is then is a shift from a categorisation process led primarily by a reading of the data, to one more concerned with the research question and literature. This shift in focus from the complete data set, to the categorised data amounts to a

‘recontextualisation’ (Tetch 1990), which enables the researcher to view the data bits in the context of the research question as opposed to the original context.

This process necessitates the creation of a conceptual framework through which the data is filtered and reassembled in an analytically useful way. This process of classification is not a neutral one, but is rather guided by the research question, as alluded to by Day:

*The important point is that our analysis throughout should be animated by an endeavour to identify and develop key themes, to which all the individuals details of analysis can be related* (Day 1993, p. 72).

For this purpose, the researcher developed a four part framework which both accepted the data categories arising from the interview and lead toward a greater understanding of the question at hand. This framework is depicted in Table 6.

Once the data categories had been positioned within the framework the researcher was better able to consider the relationship between categories, in the search for similarities and difference. This step was critical for the recognition of linkages between data elements and therefore reduced the loss of detail that occurs when we break data down into categories. The case study presented in the result chapter is presented according to this four part frame work shown in Table 6.

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Table 6: Four part framework for analysing interview data

<p><b>Organisational Information</b></p> <ul style="list-style-type: none"> <li>• Legal structure/profit motive</li> <li>• Financial information</li> <li>• Size of organisation</li> <li>• History of organisation</li> <li>• Goals of organisation</li> </ul>	<p><b>Marketing and Operations</b></p> <ul style="list-style-type: none"> <li>• Business strategy</li> <li>• Competitive environment</li> <li>• Warehousing and delivery</li> <li>• Customers</li> <li>• Product</li> <li>• Pricing</li> <li>• Convenience</li> <li>• Information</li> <li>• Challenges</li> </ul>
<p><b>Relationship to AFS</b></p> <ul style="list-style-type: none"> <li>• Ethics <ul style="list-style-type: none"> <li>○ Environmental</li> <li>○ Social</li> <li>○ Economic</li> </ul> </li> <li>• Consumer agency</li> <li>• Worlds of production</li> </ul>	<p><b>Use of Technology</b></p> <ul style="list-style-type: none"> <li>• Online groceries</li> <li>• Website</li> <li>• Social Media</li> <li>• Inventory control and delivery route planning</li> <li>• Relationship management</li> </ul>

### Price survey data

The aim of the product price survey deployed as part of this study was to determine if there is any significant price difference between online and offline AFS vendors.

However, a direct comparison of products was made more difficult by the fact that a number of the products sold by farmers' markets and the online case study firms, were sold according to different weight scales. For example, tomatoes were sold at some vendors using the US weight pounds, while tomatoes at other vendors used kilograms. To aid comparison all product weights were converted to kilograms. This included a limited number of packaged items such as jars of jam or honey, which were compared on the basis of like sized units (i.e. compare 350g jar against another 350g jar) converted to price per kilo.

Furthermore, a number of products that were sold by both online and offline vendors were not amenable to a price comparison because they were sold by the unit without any detail about weight. For example, it is difficult to compare the price of Rhubarb, if it is sold by the 'bunch' by the online retailer, with no details provided about exactly how large a bunch is on average. This difficulty reduced the number of items that were directly compared to a maximum of 24 in Vancouver and 17 in Melbourne.

### **Customer survey data**

The questions asked as part of the survey administered to online and offline AFS customers generated four types of data. The first type of data was qualitative in nature resulting from an open ended question which enabled respondents to provide an extended answer in their own words. The second type of data was scale data, resulting from questions which asked respondent to provide a specific figure, for example in relation to the cost of their last purchase with the case study firm. The third and most common type of data, is ordinal data resulting from questions which require respondents to choose a response along a 4 point Likert scale. The fourth type of data acquired is categorical in nature being, for example in relation to the gender of the respondent.

Two questions within the survey instrument give respondents the opportunity to generate extended responses about broad issues they either 'liked' or 'disliked' in relation to shopping through the medium in question. Answers to these open questions are amenable to both qualitative and quantitative types of analysis. This analysis of this data initially involved the use of the free online software package *Wordle.com*, which analysed the text emanating from these open response questions by determining the 10 most recurrent, non-common words (i.e. the software excluded words such as: the, of, it etc) within the responses from each group of respondents. This information was then visually displayed such that the more frequently a word is used, the larger the font sized employed to display it. The intent of this analysis technique is to highlight what is important to consumers using their own language.

However, to ensure that as much useful information was gathered from these open questions as possible, the researcher also subjected them to a coding process in which responses were classified according to the issues that presented themselves within in the text. In this manner issues that were discussed using different language, and thus which were not picked up in the Wordle analysis, but none-the-less shared the same theme were identified. The frequency of



occurrence of these issues for each group of respondents is then presented in percentage terms, with the top 10 most frequently identified themes being shown for each firm. While there were themes that emerged that fell outside of this relatively arbitrary cut off, they were only held by a small subset of the group of respondents, being less than 5% in all instances. Along with the Wordle analysis, this information affords an important insight into the different ways in which consumers conceive of and understand quality in relation to the different shopping mediums.

The remaining survey questions are analysed using quantitative analysis methods. Firstly scale data on the amount of money respondents last spent at either the farmers' market or online firm with which they were associated, was combined and then averaged. This information is useful in determining if e-commerce mediated AFS generate larger average order sizes than offline farmers' markets.

In accordance with the survey developed by Connell et al. (2006), upon which the survey used in this research is partly based, the majority of questions within the survey employed four point Likert scale response categories. The benefit of the four point Likert scale being that there is no impartial middle measure and as such respondents are 'forced' to think about the question to the point where they are able to take a definite stance (Garland 1991). Data arising from these Likert scale questions provided valuable information when the frequency of particular responses by different groups of respondents was analysed. The statistical software package SPSS was employed to test the level of association between variables, for example between education level and patronage of e-commerce mediated AFS. Specifically a two sided Pearson's chi test of association was used to test for links between the different cohorts and their responses to different Likert questions. An association was considered significant at or below the .05 level.

By analysing the customer survey data in this way it was possible to see if there is an association between the use of e-commerce mediated AFS and particular demographic variables which might suggest that e-commerce is facilitating a broadening of demand to include resource constrained individuals. It is not possible to assign causal significance to findings resulting from this analysis however, and for this reason a series of logistic regression analyses were also run. These analyses used data on the demographic and motivational characteristics of consumers to develop models capable of predicting the likely characteristics of online AFS shoppers relative to offline farmers' market shoppers. This data

is particularly useful in determining the extent to which online AFS may be attracting more resource constrained consumers while also retaining the same quality conventions which motivate offline AFS participants.

## **Summary**

This chapter has demonstrated how a mixed methods approach is methodologically appropriate for the task of examining the effect of ICT on the value proposition of AFS and what effect any resultant change may have on their market penetration and quality conventions employed. The research methods used to access new knowledge on this topic required that data be gathered across two locations, Vancouver and Melbourne, where e-commerce mediated AFS have become well established. Within these locations, a qualitative case study approach, employing in-depth interviews was used to gather data about the role of ICT within specific AFS firms, as well as insight into likely outcomes of such use. Findings from these qualitative investigations were then triangulated against quantitative survey data derived from AFS consumers in the same locations. The data obtained from these surveys was useful for investigating material differences in the preferences, practices and demographics of consumers using e-commerce mediated AFS. Additionally, the multi-site price survey of AFS products available from farmers' markets and the case study businesses aids discussion of how the use of e-commerce is currently affecting the price competitiveness of AFS products. The analysis techniques employed are commensurate with both quantitative and qualitative data analysis techniques and will help determine if ICT is broadening and deepening the market for AFS products and whether the use of such technology will fundamentally alter the quality conventions with which they are associated.

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## **Chapter 4: Results**

This chapter lays out the results of the primary research activities undertaken in Vancouver, Canada and Melbourne, Australia. The results of the semi-structured interviews and study site visits are presented according to the four primary categories of the framework displayed in Table 6. Within each category, results relating to each case study are presented in the following order: FFH, Fresh BC, Gaia's Table.

### **Organisational information**

#### **Fresh Food Here (FFH)**

FFH was founded in Vancouver, Canada in 1997 by Phillip Costello. The company was established with the aim of developing a better means of connecting consumers with locally produced organic food. Initially a mail-out catalogue and telephone ordering system was used, however, after less than a year in operation, the paper based system made way for an online catalogue and ordering system.

The fact FFH was using the internet for online food delivery in the late 1990's means it was a part of the first wave of firms to enter the online grocery market. Unlike many other firms such as the heavily capitalised Webvan, FFH not only survived but managed to thrive, making it a relative anomaly in the online grocery sector. Over the last 15 years the business has grown to the point where it now owns and operates distribution centres in the following locations:

- Vancouver, BC, Canada
- Victoria, BC, Canada
- Calgary, AB, Canada
- Seattle, WA, United States
- San Francisco Bay Area, CA, United States
- Los Angeles and Orange County, CA United States

All of the distribution centres in the United States were acquired through the purchase of existing businesses, during a period of rapid expansion in 2008.

The company has approximately 19,000 customers scattered across these six locations, making it the largest online vendor of local/organic food identified by the researcher. For the purposes of this study, all field research into FFH was carried out in Vancouver where their head office is located. FFH has between 1500 and 2500 customers in Vancouver per week depending on the time of year.

FFH is a privately owned, for-profit company. On July 1<sup>st</sup> 2010 Phillip Costello sold the company to a group of private investors led by Andrew Davison. Davison is now the CEO of FFH. At the point of sale FFH was turning over US\$18 million dollars per annum and employed around 230 staff.

Under company founder Phillip Costello, the following mission statement was developed:

*To be the most socially responsible, environmentally sound and financially sustainable organic delivery company in North America, while simplifying and enriching the lives of our customers, staff, suppliers and community partners (FFH Corporate FAQ).*

Asked if the company had retained this mission statement or developed a new one since the takeover, the current marketing coordinator at FFH informed the researcher:

*The original mission statement is still current. In fact I am proud to say that since Andrew Davison and I joined the company, we are truer to the mission [...] than before (FFH Marketing Coordinator).*

## **Fresh BC**

Fresh BC started life in 2008 as a buying club for a collective of Vancouver based individuals who desired more convenient access to food items which matched their social and environmental criteria. The organisation is now registered with the BC government as a for-profit co-operative.

In order to become a full member of the co-operative a person must purchase nine shares in the entity for the price of \$10 per share. However, full membership is not required to buy food through the co-op or to volunteer with them. Indeed, many customers are either part-members or non-members. Membership does not afford the holder a discount when buying food, but does notionally entitle them to a share of profits. However, thus far an operating

profit has not been achieved, nor is it a current objective of the organisation to generate and distribute one. Memberships are for life and do not require annual renewal. At the time of investigation the organisation had approximately 250 full or part members, although only 60-100 individuals/households order on any given week.

The main source of capital to start the organisation was the sale of co-op memberships, although the General Manager stated that some of the people most involved in getting the organisation going contributed a larger amount of their own funds.

At the time of investigation the organisation was run by a mix of 50% volunteers and 50% paid staff. The three staff members are each paid for 15 hours work per week. The paid positions are: General Manager, Operations Manager and Volunteer Co-ordinator.

The stated goal of Fresh BC is to enable its members to purchase food which:

- *Supports and promotes a strong local economy*
- *Supports and promotes sustainable, health promoting farming practices*
- *Supports and promotes local food processors that have a commitment to nutrition and minimizing their ecological footprint*
- *Supports and promotes growers and producers who have a commitment to social responsibility*
- *Minimizes waste by favouring minimal packaging, reuse and recycling of materials (Fresh BC Website)*

## **Gaia's Table**

Gaia's Table is a wholly owned subsidiary of Gaia Environment Park (Gaia), a not-for-profit Incorporated Association. Both Gaia and Gaia's Table are located in the suburb of Brunswick East in the city of Melbourne, in the Australian state of Victoria.

Gaia's Table was set up in 2009 as a social enterprise intended to both generate income to support the broader mission of its parent Gaia, while also fulfilling its own organisational mission. The money that flows to Gaia helps fulfil the following stated aims:

*Address the causes of climate change; promote social wellbeing and connectedness; build local and global equity; and embrace and facilitate rapid change (Gaia website).*

In addition, the operation of Gaia's Table attempts to fulfil its own objectives, which are to:

*Create a healthier, happier food system by ensuring our members have access to affordable, fresh and tasty organic fruit and vegetables, all sourced from local growers who are paid a fair price for their produce and practice eco-friendly farming (Gaia's Table website).*

Gaia began on its current 4.5 hectare site in 1982 and since that time has developed a reputation as one of Australia's leading sustainability showcase sites, with over 350,000 people visiting the site each year.

Gaia's Table has benefited from the existing recognition and goodwill toward the Gaia brand and built up a customer base of around 600 regular orders per week, within 18 months of commencing trading. The organisation is now the largest of its type in Melbourne and one of the largest in the country.

Gaia's Table currently employs three permanent full-time office staff and 2 full-time warehouse staff, as well as an additional three casual staff members. They do not use volunteer labour except for one-off events.

## **Operations and marketing**

### **FFH**

Like all the case study firms considered in this research project, FFH generates income as a retailer of foods to the general public. FFH is not involved in food production. The food that FFH does buy and sell is predominantly grown using certified organic methods. However, they also try to offer a lower cost non-organic alternative across most of their product categories.

As well as the sale of organic food, FFH is marketed on the basis of three additional value added product components. Firstly, they focus on the sale of 'locally' produced items where possible. Secondly, they operate an online ordering and home delivery model. Lastly they have a strong commitment to undertaking socially beneficial projects in addition to their core business functions.

Compared to most medium to large grocery retailers, FFH operates a highly decentralised business. Because they focus heavily on providing customers with access to locally produced food, as evidenced by the fact they publish the distance all items have travelled from place of final production to their warehouse, it makes sense for FFH to have a distribution centre in each of the locations in which they operate. This type of decentralised model is particularly important for small scale producers as it means they are able to drop their produce off to FFH directly instead of having to pay for expensive freight services to a central hub.

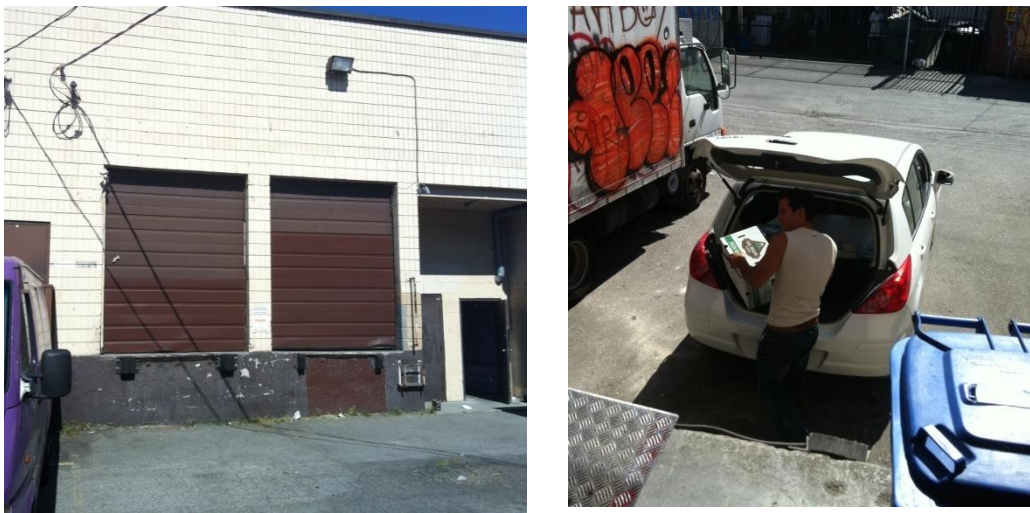


Figure 14: FFH warehouse and local farmer dropping off produce

Once the goods have been delivered to individual warehouses, either by farmers, freight companies or wholesalers/distributors, the FFH warehouse staff assign individual product numbers to the items and record the quantity in stock. This information is entered into the company's inventory control system manually on computer terminals located in the warehouse. In the near future the company intends to implement bar code scanners to automate much of this data entry.

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Figure 15: Products in FFH warehouse with ID numbers

Products are delivered to end consumers on four days of the week. Within the Vancouver warehouse, a team of 35 warehouse staff work to pack products across multiple identical box packing production lines on the morning of delivery. Products are taken individually from the shelves and packed into a large insulated plastic box for delivery according to a printed customer order sheet.

Most customers will receive one of a number of sizes of ‘seasonal’ fruit and vegetable boxes. Customers get minimal choice as to what goes into these boxes. Instead the company’s buyer at each location, purchases a range of produce which they think is freshest and best value at that point in the season.

In addition to the seasonal produce box some customers have a ‘standing order’ for certain items, such as bread and milk. Additional items can also be individually ordered by the customer. As a result of this level of choice, each customer’s order may be unique and considerable effort is required to ensure all products are accurately packed.

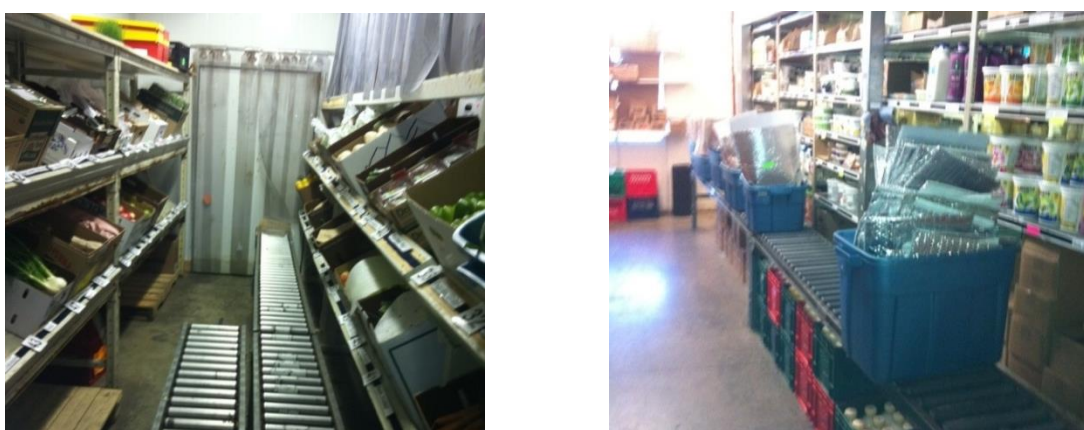


Figure 16: The FFH coldstore packing line and boxes ready to be packed



Once the products have been packed into their insulated delivery boxes they are then ready to be placed into delivery vehicles. Each delivery vehicle has a planned delivery route, so the right boxes must go in the right vehicles and in the right order so that drivers can easily access the required box at each drop location. In addition to its fleet of 12 vans, the Vancouver warehouse has recently started a trial using a local, co-operatively owned bicycle freight company to deliver around 50 orders per week. For orders over \$30 delivery is free, while for orders under \$30 a \$3 dollar delivery fee is charged.

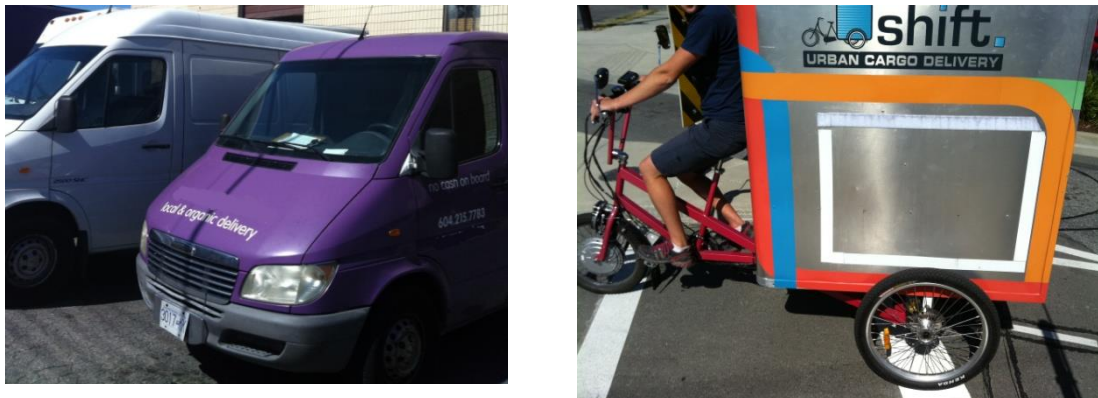


Figure 17: FFH delivery vehicles

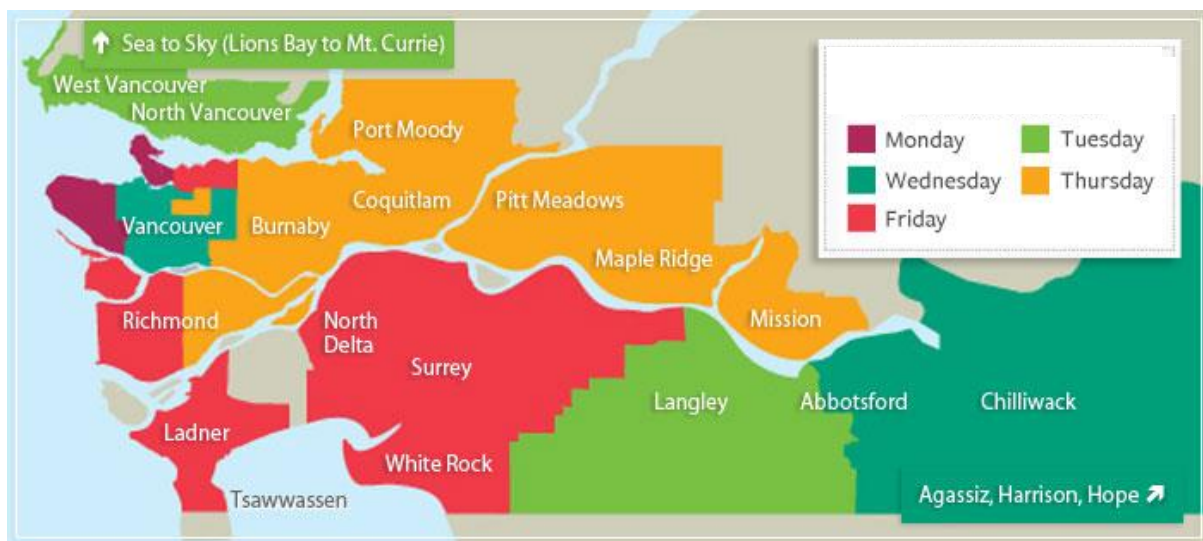


Figure 18: Delivery area serviced by FFH in Vancouver, Canada

While the business has its headquarters in Vancouver, each individual location has significant autonomy, including the ability to hire staff and decide what items to sell.

Under its current management, FFH aims to compete with firms like the large multinational *Wholefoods Market*, to provide its customers with convenient access to high quality healthy foods.

FFH CEO Andrew Davison believes that under the previous owners, the focus was ‘very green’. However, in his opinion ‘they lost sight of the fact they were selling food.’ Stating: ‘you can be a green as you want, but people still want to have ‘good’ food.’ In Davison’s opinion, in the early days of the company, their customers understood that they were buying into a kind of Community Supported Agriculture (CSA) business and that when it came to the products they received, mainstream quality standards might not apply and also that they might get less variety. This is no longer the case according to Davison, due in large part to the success of the large multinational business *Wholefoods Market*.

*Originally, organic produce was funny looking and dirty, but then ‘Wholefoods’ – which is massive by the way and does about US\$9bn in sales a year – comes in and they make organic food pretty. Worse still, they mix organic food with conventional food, so people confuse the two, or at least the distinction becomes less clear. As a result, consumers now increasingly realise organic food doesn’t have to look like shit (FFH CEO).*

It is this challenge, to ensure that the FFH product is always high quality and that the customer is aware of and trusts that fact, which drives the operational improvements and marketing endeavours of the current management team. In an effort to communicate this new focus on product quality and service consistency to staff, the new management team developed something akin to a company motto, which is: ‘No Subs, No Shorts, No Errors’ (FFH CEO). By ‘No Subs’ they mean they are aiming for zero substitutions of an alternate product, because the product the customer ordered is not available. By ‘No Shorts’ they mean zero instances of customers getting an order which is lower in value than what they ordered (but accompanied by a credit slip) because one or more of the products the customer ordered was not available. Finally, by ‘No Errors’ they mean no customer should receive an order that was anything but what they ordered.

In addition to this focus on quality and consistency, the new management has also moved to offer their customers a greater level of choice. The level of choice has been increased in two main ways. The first is that the company now aims to offer a conventionally produced item as well as an organically produced item across their whole range, because according to the FFH marketing coordinator: ‘some people perceive certified organic food as being too expensive.’ Secondly, the company was, at the time of investigation, investing heavily in their website in

order to make it much easier for a customer to make unique product selections from their range, without being forced to sign up for a standardised seasonal produce box.

By combating the issues of product/service quality and the perceived lack of choice, Andrew Davison believes they are starting to address both the biggest problem and the largest opportunity facing the company; which is the ‘churn’ of customers. That is, while the company has a significant number of customers, a large percentage only use the service for a relatively short period of time before stopping. Thus, significant numbers of new customers are required just to keep turnover stable. Solving the problems that cause these people to stop using the service is now the main focus of the company. Davison is adamant these improvements must be successfully achieved before any significant effort is put into advertising or marketing to attract new customers.

This strategy appears to be paying off, because in the first year under the new management team sales have increased by 26% across the company as a whole and as much as 43% in the Vancouver region. According to Davison, if they can continue this type of improvement the company is on track to turn over more than US\$100M in just a few years.

*People come to us for convenient access to healthy food. If we can really deliver on their expectations they are going to talk about us. Getting that positive word-of-mouth is the critical thing for us at the moment. If we get that right, this company has a lot of potential (FFH CEO).*

Given its current size and levels of growth, FFH is likely to remain significantly larger than the other firms investigated as part of this study.

## **Fresh BC**

The Fresh BC business is an order of magnitude smaller than that operated by FFH; however, there are still significant similarities in how the two firms operate.

Fundamentally, both firms are in the business of buying locally produced organic food, often from small scale local growers, aggregating it and delivering it to consumers who have made an order through the organisations website. Like FFH, Fresh BC depends heavily on their website as a cost effective means for customers to navigate what food is available to purchase and to place orders for that food. Both firms also offer non certified organic options for their

customers. In relation to the decision to sell non organic produce the General Manager of Fresh BC has this to say:

*I'm not a purist. We don't buy 100% organic, I don't feel that we need to. I don't want to scare away customers by just having local or just having organic.*

Despite these similarities, there are also many differences between FFH and Fresh BC. For example Fresh BC tends to buy from small scale, even micro scale growers, including people farming in the urban environment of Vancouver. These producers deliver their products to the low cost warehouse space Fresh BC rents within a larger warehouse space.



Figure 19: Fresh BC warehouse and Vancouver urban farm

Once Fresh BC has taken delivery of produce it is not entered into an inventory control system, but rather placed conveniently in the warehouse ready for packing. The packing operation is run either by the paid Volunteer Coordinator or the paid Operations Manager, with the bulk of the actual packing being carried out by volunteers.

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Figure 20: Volunteers packing produce for delivery in the Fresh BC warehouse

Significantly, orders are not packed for individual customers at the Fresh BC warehouse. This is because when a customer/member orders from Fresh BC they are not doing so as an individual but rather as one member of a local neighbourhood group, which receives the collective order at a designated neighbourhood ‘delivery depot’. Whereas FFH packs and delivers orders to individual households, Fresh BC uses what is referred to in this study as the hub and node model. Using the hub and node model, food is aggregated at the hub, in this case the Fresh BC warehouse, before it is broken down and delivered to the various nodes, in this case houses and community centres throughout the city. Members then converge on their designated node or delivery depot and work together to disaggregate the order into individual customer orders. To facilitate this process Fresh BC includes a print out of what individual customers ordered, so that there is no confusion at the node.



Figure 21: Produce ready for delivery by Fresh BC

In addition to packing and delivering orders for the various nodes, Fresh BC also takes receipt of, and then delivers, pre-packed boxes of vegetables from a local Community Supported Agriculture (CSA) scheme. This CSA is separate to the Fresh BC operation, meaning Fresh BC does not handle any money in relation to this scheme, but by delivering



the boxes they save the farmers having to do it and thereby make a contribution to the organisation's goal of connecting consumers with sustainably produced local food.

Like FFH, Fresh BC sees poor customer retention, or 'churn', as the number one threat to the success of the operation. According to the Fresh BC General Manager, they perceive the problem as one largely due to a lack of marketing on their part. In the words of the Fresh BC General Manager: 'I guess some customers just forget about us after a while!?' However, due to their small size and lack of financial resources, they cannot afford commercial advertising or marketing. As such, they try to make use of free marketing tools, like the social media sites Twitter and Facebook, the details of which are covered in the following section of this study.

Interestingly, unlike the FFH management, Fresh BC staff did not perceive product quality or consistency issues as likely to be major factors in their struggle to keep customers. Referring to the difficulty they have accurately fulfilling customer orders the Fresh BC General Manager had this to say:

*We have regular issues with not being able to fulfil member's orders, but that is just part of doing business directly with farmers. They might tell us they have a crop ready to harvest so we put it up on our website, but then they (the farmer) has an issue or whatever at the last minute and we can't really do anything about that.*

Also, when the researcher visited the Fresh BC warehouse and helped to pack produce he was surprised by the poor quality of some produce, such as obviously over ripe plums, that were still packed up and shipped to customers.

However, it seems the Fresh BC customers are more willing than FFH customers to forgive these sorts of issues. According to the Fresh BC General Manager this is because their consumers understand such concessions are part and parcel of promoting a viable local food system. This sentiment is further conveyed when the General Manger discusses what she sees as the main difference between Fresh BC and FFH:

*Fresh BC and FFH are competing for different customers. FFH is obviously for profit, and you see that when you look at their website and the produce they offer. They (FFH) are a bit like the 'Wholefoods Market' of the online*

*delivery industry here. Our (Fresh BC) mandate is really to be local and I think we are much more local than they are.*

Thus while both FFH and Fresh BC are involved in the aggregation and retail of locally produced organic foods, the managers at Fresh BC believe they are none the less competing for different customers.

### **Gaia's Table**

While Gaia's Table does not operate in Vancouver, Canada like the previous case study firms discussed, it still displays significant similarities in how it operates and markets itself. Like the Canadian firms, Gaia's Table aggregates a range of fresh produce and packaged food stuffs, with a focus on locally and organically produced items. Final consumers are required to order from Gaia's Table through the company website. More than 90% of customers order a standardised seasonal fruit and vegetable box, the contents of which varies from week to week and which is chosen by the Gaia's Table purchasing officer. Many customers also choose to purchase additional items including both fresh produce and packaged items.

Like the other case study firms in this study, Gaia's Table predominantly buys fresh produce directly from small and medium sized growers operating within a radius of a couple of hundred kilometres from the companies warehouse. Unlike the Vancouver based firms, Gaia's Table often sends their own staff members to farms to pick up produce, rather than requiring farmers to transport the items to them.

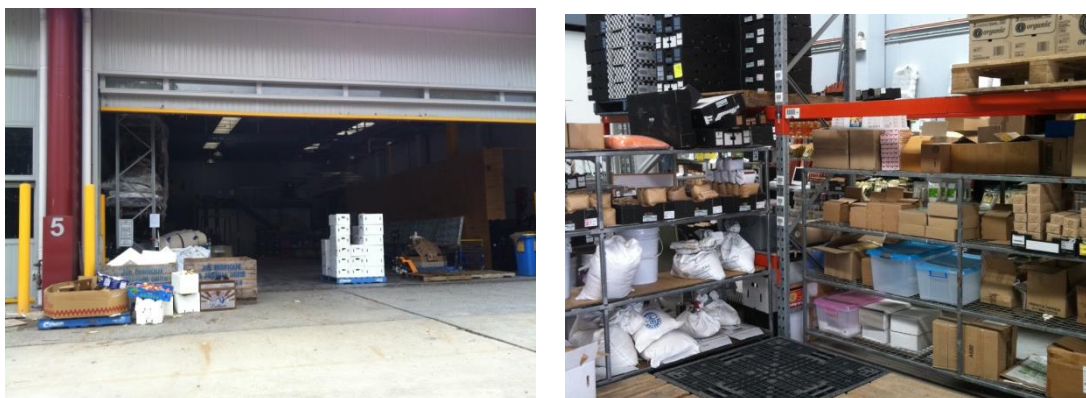


Figure 22: The Gaia's Table warehouse in Melbourne, Australia



Figure 23: Box packing instruction and worker packing boxes at Gaia's Table

Another significant area of difference between Gaia's Table and the Vancouver case study firms is that the parent organisation Gaia also produces a significant amount of fresh fruit and vegetables from two urban farms. One of these farms is actually co-located in the same warehouse complex as Gaia's Table. This production unit, shown in Figure 25, is an experimental 'aquaponics' system capable of producing both a variety of vegetables and salad greens, as well as fresh fish. In this innovative system, the effluent from the fish is used to fertilise the plants, while at the same time the plants clean the effluent water allowing it to be reused within the fish tank. This production technique saves water and reduces the need for plant fertilizer.



Figure 24: Gaia solar powered aquaponics system adjacent to the Gaia's Table warehouse

However, the Gaia food production units are run as separate enterprises to Gaia's Table and unless the former is capable of producing quality products at competitive prices, Gaia's Table management is reluctant to buy them.



Currently, Gaia's Table distributes food to their customers using a similar hub and node system to that employed by Fresh BC. Whereas Fresh BC refers to their delivery nodes as 'delivery depots', Gaia's Table refers to theirs as 'food hosts'. Customers receive a 25% discount on their order if they are willing to become food hosts, that is, have their house used as a drop off and collection facility for other customers in the local area. At the time of data collection Gaia's Table delivered to 60 food hosts across Melbourne.

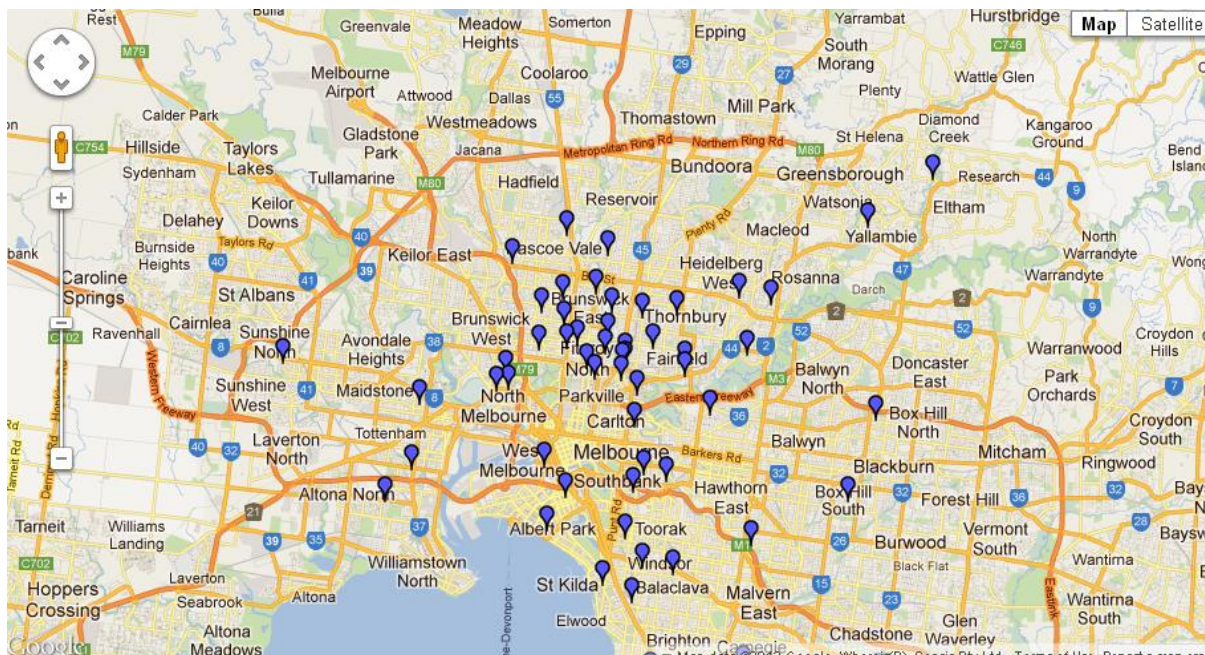


Figure 25: Gaia's Table 'Food Host' location across Melbourne, Australia.

Like FFH and Fresh BC, Gaia's Table also has significant problems with customer churn. According to the Gaia's Table Marketing Manager, the 600 weekly orders they receive on average only accounts for around 20% of the total number of customers who have signed up in the company's two year history. In an effort to understand why customers were no longer using the service, Gaia's Table conducted an exit survey of all people who had signed up, but who had not used the service in the three months prior to the survey being administered. The two biggest problems identified in this exit survey were customers' inability to get produce delivered directly to their homes and also the lack of product choice, variety and availability. Many of these disenfranchised customers reported dissatisfaction with the inflexible vegetable box, which they felt contained too many of the same undesirable vegetables week in week out.

As a result of this information, Gaia's Table is concentrating their efforts on developing a home delivery service and also increasing the range of produce that customers can choose from in addition to the seasonal vegetable box. However, offering to deliver the produce all the way to an individual customer's house, rather than one house, or node, in the neighbourhood is significantly more costly in terms of labour and fuel for the organisation. As such, it seems likely that Gaia's Table will pass this cost on to the consumer. At present they estimate that they will have to add a delivery surcharge of \$9 per order.

When it comes to promoting Gaia's Table to customers, the firm's Marketing Manager explained that the company had many unique ethical characteristics which they could use for marketing purposes, but sometimes the sheer number of ethical issues they participate in made it difficult to communicate them succinctly:

*Those customers who do stick with us, they think of us as a social enterprise because they believe in us as proponents of certain ethics. We take it beyond organic, we offer good terms for our suppliers, we support Gaia, we don't use as much packaging, we offer a good workplace, we recycle and compost everything. It's difficult to communicate all the ethical angles we participate in, but if people go to our website I think they get an idea of what we stand for (Gaia's Table Marketing Manager).*

And

*I call our customers members, because they are more than just consumers. They treat us in a way that is so much more forgiving than would be the case if we weren't a social enterprise I think. They are so forgiving and lenient with things like customer service. They know we don't have the resources. People are so polite. I know from experience if this was a for profit business, people wouldn't be so forgiving (Gaia's Table Marketing Manager).*

These comments echo those made by the Fresh BC General Manager, in that they make clear that the management of both firms expects customers to adjust their quality standards from those they would expect from larger mainstream food vendors such as supermarkets.

## Use of e-commerce related technology

### FFH

According to one long term FFH employee, he and others at the firm see the company as an ‘internet company’. This employee, who is now in an internet marketing role with the company, stated: ‘If it wasn’t for the internet we wouldn’t exist. We are as much an internet company as Amazon or EBay (FFH Online Marketing Employee).’

At the time of the researcher’s visit, FFH was in the process of a major rebuild of their website. This rebuild was primarily intended to improve the ease of use for customers. As such, the company was employing four full-time programming staff, capable of working with the Adobe developed *Coldfusion* website architecture.

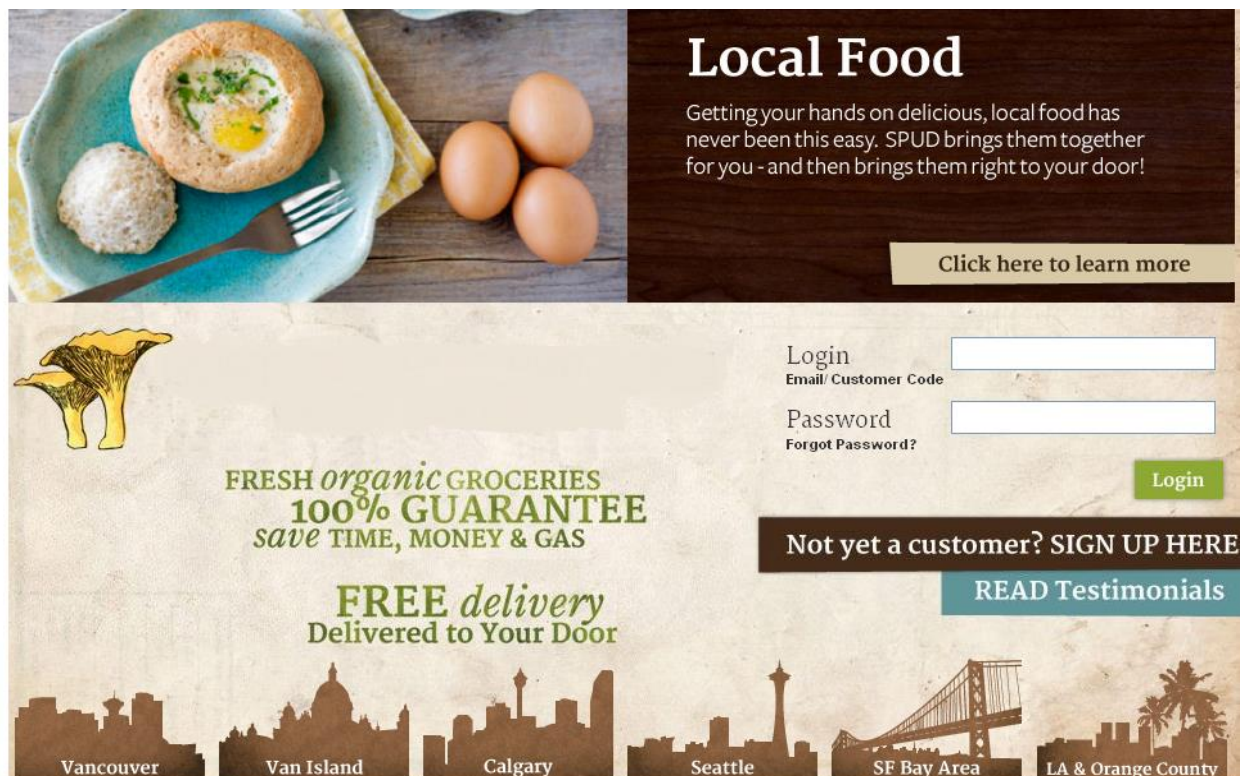


Figure 26: First page of FFH website including location choice

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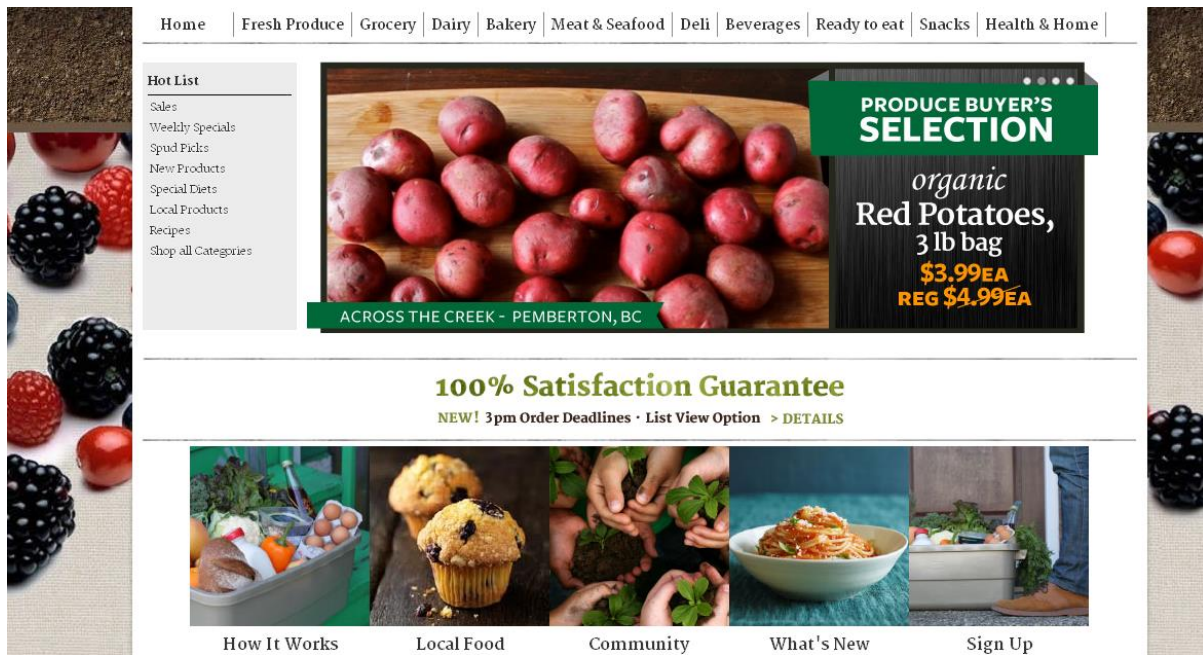


Figure 27: Primary menu page on FFH website including links to information on community engagement

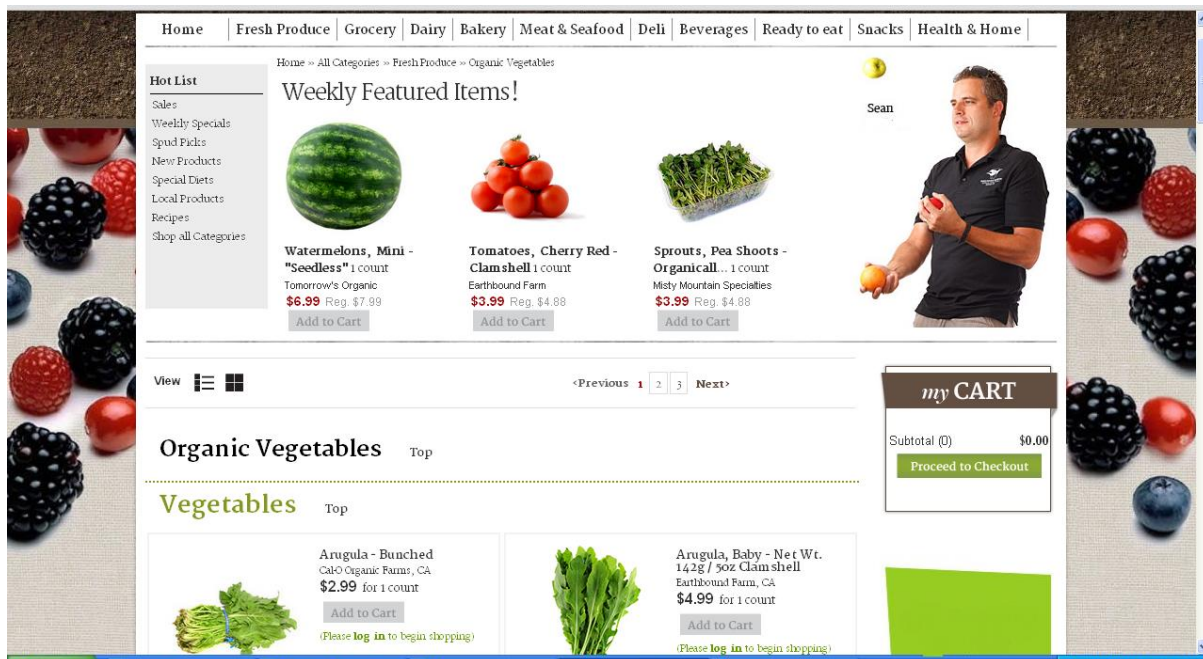


Figure 28: Product selection page including photo and name of FFH employee

Like the websites of all three case study firms, the FFH website enables consumers to both set up a 'standing order', which as a minimum, generally consists of a 'seasonal' box of vegetables chosen and packed by FFH staff. Seasonal vegetable boxes can be ordered in a variety of sizes and can be specified with or without fruit. In addition to this ongoing order

which will continue to be delivered until the customer stops it, they can also choose to order from an ever changing array of fresh and packaged items on an ad hoc basis.

According to the FFH Marketing Coordinator, this has led to the website evolving in two separate ways, with one side built to handle an ever changing product range, and the other side set up to capture relatively steady information about the consumer and their 'standing order'. The rebuild of the company's website, being undertaken at the time of the site visit for this study, was due in part to the inflexibility of that two part structure. In particular, the company wanted to fast track customers through to a shopping experience which gave them more choice, rather than confronting them in the first instance with the requirement to commit to a pre-set and ongoing veg box, as well as having to fill out significant amounts of personal information. According to the data captured by the FFH website, around 3000 people in Vancouver, in the last year alone, clicked through to brows products but failed to actually make a purchase. The CEO of FFH believes this statistic is caused in large part by customers balking at the high level of commitment and information required. The new website will significantly reduce the time and effort required on the part of the customer to start their first shop. FFH management hopes this reduction in effort required will capture more of these obviously interested potential customers who currently visit the site but do not purchase.

In addition to the company website, FFH also uses the social media platforms Facebook and Twitter. At the time of data collection, 847 people 'liked' them on Facebook, thus receiving updates when the company uploads them; while 2804 people 'follow' them on Twitter, again meaning they receive information when posted by the company on that platform. According to the FFH Marketing Coordinator, while the company does have a paid staff member post on social media sites on a daily basis, they don't put a lot of value on either platform. This opinion is reflected in the low number of followers they have relative to their total number of customers. However, in addition to these dedicated social media sites, FFH also makes use of their website to build a minimal interpersonal connection between its staff and its customers. For example, Figure 29 shows a screen shot of the FFH website depicting a photograph and limited personal information about the company's main produce buyer.

One of the most unique ways FFH uses technology, compared with the other firms in this study, is in the way they control their product inventory. Because FFH allows customers to order specific items on a weekly basis, in addition to the seasonal veg box, the firm has

historically had to make a choice between either making their customers order sufficiently far in advance, so that the company can then acquire those items, pack them and ship them to the end customer; or the company itself must order in advance and risk wasting product if it is not ordered in turn by their customers. In the past, FFH has relied on the first strategy, meaning that customers had to place an order at least two days in advance of their delivery day. However, the new management team see this as a significant inconvenience for customers, and are therefore investing in technology to reduce the amount of time customers are required to order ahead. Specifically, they are developing a Materials Resource Planning (MRP) system, which employs an algorithm with input values based on historical order patterns and current growth trends, to predict what their customer base will order on any given day. The company hopes that this MRP system, when mated with the company's new website, will enable them to cut the amount of time a customer must order in advance from 48hrs to just 6hrs. To enable such a small window between a customer submitting an order and that order being packed for delivery, FFH needs to have already purchased the product from their supplier. This is a fundamental change from their historical methods of only buying in what their customers have already ordered. However, the risk of product wastage should be significantly reduced through the use of the MRP system.

For example, the company's new website has been designed so that it will automatically update to tell customers the remaining quantity available to purchase of a given product in real time. This means that the MRP system can be calibrated with conservative estimates of product demand, thus minimising the stock held and the likelihood of product wastage, while also ensuring the customer does not order a product which cannot actually be delivered to them. However, this approach does have a downside in that the company may miss out on some sales, as they have been deliberately conservative with their ordering. However, the FFH CEO stated that this was preferable to a situation in which customers either had to order days in advance, or alternatively, in which the company bears the cost of significant wastage.

To facilitate the introduction of the MRP system, the company's inventory control technology is also being updated. Currently inventory levels are manually checked and entered into their computer system once a week. This process is being replaced in favour of a bar code scanning process which will give more time sensitive inventory control. When asked about the suitability of Radio Frequency Product Identification (RFID), the Vice President

did not think this would be viable for them or their suppliers, stating: ‘We can’t impose the Costco or Wall-Mart type of system on small mum and pop vendors.’

Another area of technology deployment which is unique to FFH, at least within this study, is in the use of Global Positioning System (GPS) units to assist with routing delivery trucks. According to FFHs Warehouse Manager ‘All of [their] trucks are fitted with a GPS navigation unit and all drivers must carry a mobile phone. In reality though routing is done with a mix of GPS and the drivers existing knowledge of an area.’

When it comes to dealing with their suppliers, FFH only makes relatively limited use of e-commerce type technology. While email is used to communicate with some suppliers, others can still only be contacted via telephone. Also, while a limited amount of product availability data is made available by suppliers using database software such as Microsoft Excel, this is the exception rather than the norm. As such, the ordering process between FFH and their suppliers does not display significant levels of e-commerce based integration.

### **Fresh BC**

Fresh BC does not have the same level of e-commerce adoption as does FFH. For example, while Fresh BC has a website, both its visual display and capabilities are more basic than the FFH website. The Fresh BC site contains less information about individual products and suppliers as well as minimal information about the employees of Fresh BC. Available products are displayed in a similar and conventional way, with the customer first choosing from a product category, progressing to a page displaying a list of products available within that category. Unlike the FFH site, individual images of products are not provided. Another significant difference between the two sites is that the FFH site accepts payment through the website using credit cards, whereas Fresh BC does not, instead requiring customers to pay via direct debit or cheque.

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Figure 29: Screen grab from the first page of the Fresh BC website



Figure 30: The produce order page on the Fresh BC website

All inventory control tasks are handled manually by the paid staff member in charge of buying products. All fresh products are ordered once a week, according to the buyer's knowledge of what is available from local growers at that time of year. Any products which are purchased by Fresh BC, but not bought by customers/members, are given away to volunteers and local charity groups, or composted. Packaged items are re-ordered on an ad-hoc basis, if and when the buyer notices they are low. This task is relatively easy given the small size of the warehouse space and small range, as can be seen in Figure 31.

One area of ICT use that Fresh BC does make comparatively large use of relative to FFH is the use of social media, as they make extensive use of Twitter and Facebook. While the organisation has around 250 members, it has 150 followers on Facebook and 550 on Twitter.



These numbers are not large in an outright sense, but are significant relative to the small size of the Fresh BC membership base. According to the Fresh BC General Manager Twitter has been more effective for them as, ‘it has greater cut through and it’s also more direct and personal.’

### **Gaia’s Table**

Gaia’s Table falls between FFH and Fresh BC in terms of the company’s use of technology. Their website is similar to the other case study firms in that it is a critical focal point for the business and is the chief means by which customer/members interact with them.

In terms of visual appeal and features, the website has a professional look and feel to it, including the provision of video windows which provide more dynamic information on the organisation and the farmers which supply it, as shown in Figure 32. Similar to the procedure observed in the other case studies, when using the website Gaia’s Table customers must first choose from a range of product categories, before getting to a more detailed list of the actual products available. When displaying product information the Gaia’s Table site is more like the FFH site, in that it provides an attractive image of the product instead of text alone.

Another area of difference is the fact that Gaia’s Table makes more extensive use of Facebook than either of the other case study firms, evidenced by the fact it is the only one to have more people following the business on Facebook than active customers/members. Gaia’s Table currently has 2,382 people following on Facebook, while they deliver to approximately 600 people on a weekly basis. They also use Twitter where they have 751 followers.

Inventory control is carried out manually at Gaia’s Table, with no use of bar code or other technology. Because they have not implemented a MRP system, like that being employed by FFH, they require that customers place their order sufficiently far in advance that they can then order accordingly from their suppliers.

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Figure 31: First page of the Gaia's Table website

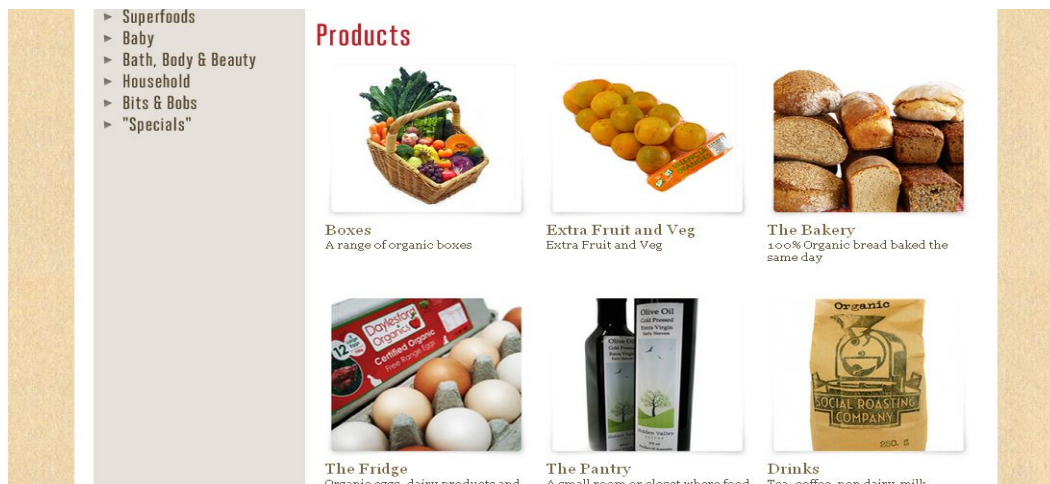


Figure 32: Gaia's Table webpage showing available product categories

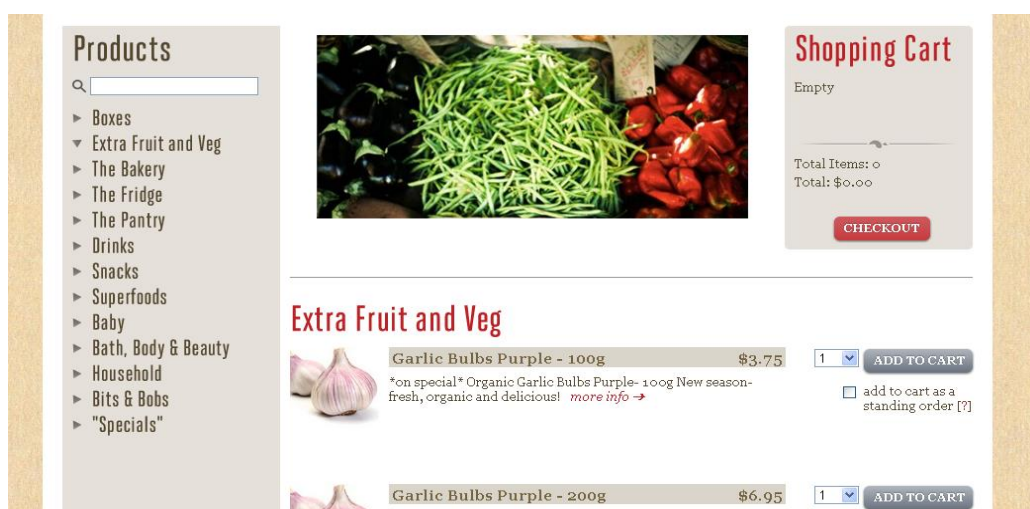


Figure 33: Gaia's Table webpage displaying picture and information on specific products available

Gaia's Table is also planning to update their website, although at the time of data collection they did not have the in-house resources to complete this task. Discussing her hopes for the website, the Gaia's Table Marketing Manager had this to say:

*Hopefully our new website will aid us in terms of promoting relationships between customers. We will add more interactivity and also just more useful information, like recipes. I think any new connection is good, regardless of if it's online or offline.*

This statement evidences the confidence that Gaia's Table staff have in their website as a tool for building dynamic two way relationships with their customers.

### **Alterity and fit with AFS literatures**

In addition to the general organisation information gathered, and information concerning their use of ICT, information was also gathered in relation to how the case study firms fit with the key concepts employed in the Alternative Food System (AFS) literature generally, and the worlds of production theory outlined by Storper and Salais (1997) specifically. Key AFS concepts include:

- The conscious attempt at separation from the conventional food system – that is, separation from food businesses and systems dominated by corporate entities within the industrial world of production outlined by Storper and Salais (Scribis 2007).
- A shortening of physical distance between food producers and food consumers, such that transactions take are more likely to take place in the 'interpersonal' world of production outlined by Storper and Salais (Delind 2006; Hardesty 2008).
- A shortening of cognitive distance between food producers and consumers via increased transparency and information flow between producer and consumer (Fonte 2006; Kirwan 2006). Such proximity is also relevant to the 'interpersonal world' outlined by Storper and Salais.
- The adoption of conventions of quality, through which food is understood as 'good' when it incorporates a range of positive environmental, cultural and taste aspects (Brunori 2007; Goodman 2004; Lang 2010). Where the utility of these aspects accrues to the consumer, their presence can be ascribed to the market world which according to Storper and Salais is about the provision of rich product qualities for the

benefit of the consumer. However, for product attributes that provide utility beyond the consumer, this theoretical model advanced within this study suggests they are more likely to be present within the interpersonal world where in depth two way communication is more possible.

The alignment, or lack thereof, of the three case study firms with these concepts is discussed below. Tables are also presented depicting how this alignment accords with the Worlds of Production theory used to integrate the firm level data into the theoretical model advanced within this study.

## **FFH**

FFH started out with a vision for a new type of alternative food supply chain. This new supply chain would use the internet to connect people to locally and organically produced products, providing them with more information about individual food items, while also carving out an active role for the firm as hub in the regions social fabric. This desire to foster social engagement and environmental responsibility is particularly evident in the mission statement devised under the company's founding management team:

*To be the most socially responsible, environmentally sound and financially sustainable organic delivery company in North America, while simplifying and enriching the lives of our customers, staff, suppliers and community partners (FFH Corporate FAQ).*

Examples of how the business has attempted to achieve these aims include the continuing (under the new management team) program of accepting recyclable waste from customers at the same time as they return their empty product delivery boxes. For example, customers can fill their empty delivery boxes with their waste milk cartons and cardboard and FFH will ensure they are recycled. At intervals, the company also encourage their customers to donate clothing or toys by depositing them in their delivery box prior to return to company. FFH then forwards these items on to local charities.

FFH also makes significant donations to a local food charity. The majority of products that do not meet FFH's quality criteria, but which are still safe to eat, are donated to an innovative social enterprise called *Quest Food Exchange*. *Quest* then sells these products at very low

prices through a conventional supermarket format store it operates in central Vancouver. However, only people at risk of food insecurity are able to shop at this supermarket.



Figure 34: Inside the Quest grocery market in Downtown Eastside Vancouver

FFH also uses their company website to build a more personal connection with the local community by giving photographs and limited information about its staff, thus attempting to humanise and personalise the shopping experience to a greater degree.

Environmentally the firm is committed to minimising its use of packaging. More fundamentally they believe their model of online ordering and food delivery to the home is one of the most environmentally friendly ways of handling this logistics task. This is because it reduces the need for many individual households to drive to the store to buy their groceries, thus reducing greenhouse gas emissions.

The company's commitment to promoting local food production and consumption as well as generally increasing transparency in the food system is evident from the fact that all products sold through their website include information about how many miles the product has travelled from place of last major value adding, to FFH's warehouse. According to the company website, they are the only grocery retailer in North America to ensure 100% of their products come with this information.

While not all of the products sold by FFH could be described as 'locally' produced, even by a liberal definition of what is a variable concept, they do offer what they call the 100 mile diet. That is, customers can click on a 100 mile diet icon on the firm's web page and will then only see products for sale that have been produced within 100 miles of their location.

Despite the significant level of scale that FFH has attained, they have also retained a distributed approach to their operations. It maintains separate product aggregation centres in each location it trades in and gives these regional operations the freedom to buy and stock whatever products suit their area – especially locally produced products. Therefore the business is, in some ways, like a network of small local aggregators.

However, while FFH exhibits many qualities associated with AFS, there is some evidence that under new owners the organisation has begun taking a more single minded focus on economic profitability. Andrew Davison, the new CEO and largest shareholder, was very clear about the reason why he and his partners bought the business. Specifically, they believe that online grocery retailing is now something of a ‘last frontier’ in online commerce, but that the time is now right to reap significant financial gains. Mentioning research by the company Nielson (The Nielsen Company 2011) which estimates that the online grocery sector in America will likely to be worth between US\$12Bn and US\$25Bn by 2015, he suggested FFH was well positioned to capture some of this market and would likely increase sales from its current US\$18M a year to at least US\$100m in the next few years.

Davison’s strategy for achieving this growth seems to be a single minded focus on giving customers a high quality and highly consistent experience. This drive is already having ramifications for what otherwise might be considered AFS goals. For example, Davison recounted that when he first took over the business he noticed that all their warehouses had low emissions lighting installed, but that it was so dark the workers couldn’t accurately read the packing schedule. In response he immediately had the lighting changed to brighter, but more energy intensive, bulbs. Davison’s rationale for this change is encapsulated in his statement that: ‘you can be a green as you want, but people still want to have good food.’ Meaning that the majority of customers are more concerned about actually getting the products they pay for, than they are about whether or not FFH is using environmentally friendly lighting. These developments evidence a general shift toward the market world of production.

A more general and significant change detected by the researcher is a gradual shift by FFH, away from using many small local suppliers, toward the use of a smaller number of large distributors and wholesalers. While this change likely has economic advantages for FFH and may improve the consistency of product quality, it does mean an additional layer in the food supply chain between the consumer and the producer. The main reason for this shift

according to Davison, is the difficulty small producers have with consistently supplying the high quality of product the company now demands. Davison stated:

*The thing about farmers is that they get trained. Not a good or bad thing, it's just that if for 12 years someone is accepting this, then they want to give you this. However, we can't accept that anymore.*

Evidence of this new intolerance for products that do not conform to their high quality standards was witnessed by the researcher when touring their warehouse facility. Figure 36 shows an image posted on the wall in the warehouse designed to show staff what bananas were acceptable and which should be rejected. This focus on product uniformity evidences a level of engagement with the industrial world of production outlined by Storper and Salais.

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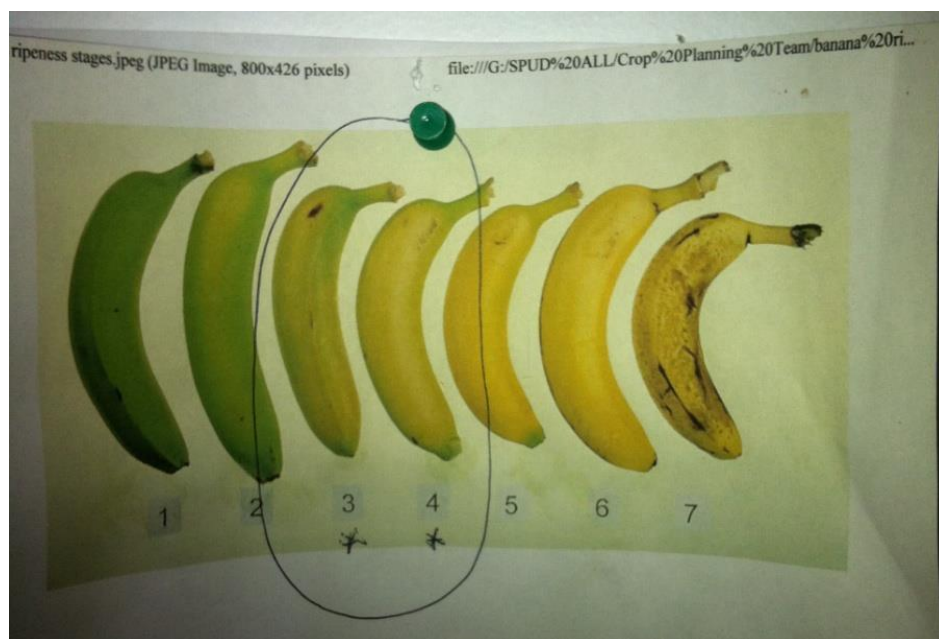


Figure 35: Image on a wall in the FFH Vancouver warehouse, showing what size and ripeness of banana to accept

Despite these adaptations, FFH still fits the general mould of an AFS company. This is because it actively promotes local food and organic food production, as well as attempting to link consumers and producers, albeit through technological means. The company also plays an active and positive role in the social life of its host community. These factors suggest that FFE does operate within the interpersonal world of production outlined by Stoper and Salais. However, under the new owners, the firm appears to have taken active steps toward the

market world of production, in that it has a renewed focus on outright profitability and growth, and has begun to make demands upon its suppliers which reflect a changing power dynamic in FFHs favour. Rather than embracing small local food producers as integral stakeholders, the company has begun to jettison some of these suppliers in favour of larger intermediary firms, more capable of consistently meeting their new quality requirements which specify a level of uniformity generally associated with the industrial world of production. The following table outlines the key attributes linking FFH to the three worlds of production deemed most relevant to AFS.

Table 7: Alignment between FFH case study findings and the worlds of production theory.

Worlds of Production Storper and Salais (1997)	Interpersonal	Market	Industrial
FFH	<ul style="list-style-type: none"> <li>• Local food sales</li> <li>• Information about product provenance</li> <li>• Images and profile information on farmers</li> <li>• Two way communication with consumers through social media</li> <li>• Active attempts to promote social and environmental outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Increased focus on firm profitability</li> <li>• Increased focus on delivering products with high levels of utility for consumers</li> </ul>	<ul style="list-style-type: none"> <li>• Increased focus on product uniformity</li> <li>• Use of production line processes in product assemble</li> </ul>

The results shown in Table 7 show that while FFH does have considerable adherence to the interpersonal world of production, there is also evidence to suggest it is a more conventionalised AFS format, as the new owners are introducing business processes generally associated with the market and industrial worlds of production.



## Fresh BC

If one of the guiding tenets of AFS specifically, and the interpersonal world of production generally, is that consumers and producer should be brought into closer contact, than Fresh BC is significantly aligned in this regard than FFH. This is because Fresh BC, as a co-operative enterprise, is owned and operated by its members and as such when Fresh BC deals with farmers, the transaction is effectively between producers and consumers. Of course, many of the member/consumers may not actually deal with farmers because most activities are carried out by a few paid staff, although a small number of member/consumers do participate through volunteerism. However, this is a level of organisation and aggregation which appears to be both minimal and necessary, because without it the exchange would be unlikely to be economically viable for either the farmer or the consumer, due to the logistics costs involved when consumer buy individual products from different farmers (Zapeda & Li 2006).

In addition, the co-operative structure and hub and node distribution model employed by Fresh BC means that consumers are more likely to come into contact with other members in their immediate neighbourhood, thus fostering the growth of a sense of community.

The desire of Fresh BC members to get to know the people who produce their food and the conditions under which it is produced, also seems to flow through into a sympathy for the those farmers. For example, Fresh BC staff and members appear willing to overlook instances of poor product quality or inconsistent supply. In contrast, FFH is taking 'aggressive action' (FFH CEO) to deal with issues of quality and consistency. Fresh BC staff seem to regard such vagaries as part and parcel of creating the type of food system they want.

Highlighting the differences between Fresh BC and FFH, the Fresh BC General Manager stated:

*We offer a lot more direct farmer 'stuff' than they do. We have closer relationships with local farmers I think. We're the Mom and Pop shop and they are the Wholefoods Market. I think our customers are kind of looking for community. Maybe FFH has some kind of community but I feel like we are more, you know... you are joining something, rather than just buying your groceries. Like, there is a little bit more to it.*

And; 'I love shaking hands with the person who grows my food.'

By way of an illustrative example of the close connection between their customers and their suppliers, the Fresh BC General Manager recounted a story of a supplier who came to them and said they were experiencing a terrible insect problem with their crop and wanting to know whether the Fresh BC members would prefer to receive what would end up being a sub-standard looking product, or would they prefer the farmer sprayed the crop to kill the insects. The Fresh BC General Manager dually surveyed the organisations members on the social media site Facebook and received a clear indication that they would prefer the crop was not sprayed. In the end the farmer did spray the crop, as apparently he felt it wouldn't sell at farmers' markets if he didn't. However, despite this outcome the General Manager maintained this example evidences a more connected and transparent food system.

Table 8: Alignment of Fresh BC case study data and the worlds of production theory

Worlds of Production Storper and Salais (1997)	Interpersonal	Market	Industrial
FFH	<ul style="list-style-type: none"> <li>• Co-operative ownership</li> <li>• Local food sales</li> <li>• Information about product provenance</li> <li>• Images and profile information on farmers</li> <li>• Two way communication with consumers through social media</li> <li>• Active attempts to promote social and environmental outcomes</li> </ul>		

The results shown above in Table 8 show clearly that Fresh BC is firmly aligned with interpersonal world of production and does not show any significant evidence of being conventionalised into the market or industrial worlds of production.

## Gaia's Table

Gaia's Table is perhaps the most complex of the three case study firms when it comes to fitting into a general conception of AFS and the worlds of production theory. Unlike Fresh BC the company is not founded by and for consumers, but nor is it a dedicated for-profit business. While they do attempt to generate money for their parent body Gaia, the management staff at Gaia's Table strongly embrace both consumers and producers as important stakeholders in their operation. Indeed, the parent body Gaia, is itself a food producer, and Gaia's Table shares its physical site with one of these food production ventures. So in some ways Gaia's Table occupies the other side of the consumer - producer spectrum than Fresh BC, being a producer group rather than a consumer group. The Gaia Marketing manager had this to say about their relationship with farmers:

*We try and give farmers a fair deal, and don't switch growers week to week, based on price. We are willing to absorb a certain amount of issues with quality and price from our suppliers, so long as they don't blatantly try to take advantage of us of course! Being able to manage that, means having someone with a really good understanding of the organic market and that's where [the produce buyer] comes in.*

Unlike the other two case study firms, Gaia's Table regularly sends out its own staff and vehicles to farms to pick up produce. Because of this, Gaia's Table staff members are likely to have a greater level of understanding about the challenges faced by producers, as well as a greater knowledge of the farming practices employed by their individual suppliers. As a result of this build-up of knowledge and relationships, Gaia's Table is well positioned to pass this information on to their consumers, thus building trust and transparency along the food chain.

However, Gaia's Table is currently instigating some changes which may reduce some of those attributes associated with AFS. For example, at present the only way for a consumer to buy food from the organisation is for them to join a group of locals who collectively share a drop off point in their community, whether it is a customer's house or a local community space. That is, like Fresh BC, Gaia's Table uses the hub and node distribution model. While not all of these groups lead to a significant increase in social relations between customers, some may, and as such it is an important attribute linking the business to the interpersonal

world of production. In relation to the significance of the hub and node distribution model the Gaia's Table Marketing Manager said:

*There are all sorts of food host experiences. Some hosts are really active and try to engage their fellow members and get to know them, often organising social events together; whereas at other locations, people may never meet each other. I think every new connection is a good thing though (Gaia's Table Marketing Manager).*

Despite the recognised value of this delivery model, including the lower logistics costs involved for both business and consumer, Gaia's Table is now actively moving to offer delivery to the homes of individual customers as an additional service. The motivation for this alteration to their delivery service is the belief that the lack of such a service is one of the prime reasons people stop ordering with them. If this assumption is correct, this change may help the viability of the company as a whole, but it will potentially render some current food host groups no-longer viable, as they require a critical number of members to receive delivery from the company. By reducing the proportion of customers who use the community drop off sites, opportunities for social interaction between customers will also be reduced.

The second major change the company is planning also evidences a reduced commitment to AFS related ideals. According to the findings of the exit survey conducted by Gaia's Table, customers who tried but did not continue with the service did so because they felt there was inadequate choice and variety on offer, particular at certain times of year. Therefore management intend to expand the level of customer choice on offer in regards to what fresh produce is available throughout the year. This change is likely to mean an increase in the sale of foods that are not in season in the local area.

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Table 9: Alignment of Gaia's Table case study data and the worlds of production theory

Worlds of Production Storper and Salais (1997)	Interpersonal	Market	Industrial
FFH	<ul style="list-style-type: none"> <li>• Farm aligned enterprise</li> <li>• Local food sales</li> <li>• Information about product provenance</li> <li>• Images and profile information on farmers</li> <li>• Two way communication with consumers through social media</li> <li>• Active attempts to promote social and environmental outcomes</li> <li>• Hub and node delivery model</li> </ul>	<ul style="list-style-type: none"> <li>• Offering individualised home delivery which will reduce social interaction</li> <li>• Increasing the amount of non-local produce offered at specific time of year</li> </ul>	<ul style="list-style-type: none"> <li>• Efficient production line product assembly</li> </ul>

The results shown above in Table 9, demonstrate that Gaia's Table continues to have a strong alignment with the interpersonal world of production, however they are making changes to the businesses which can be interpreted to moving it in the direction of the market and industrial worlds of production.

This concludes the presentation of results derived from in-depth semi-structured interviews with organisational actors at the three case study firms. The next section of this chapter presents results of a price comparison between products sold via the online case study firms and co-located farmers' markets. Following results from the price survey, results are described from a survey of 375 customers who shopped either online at one of the case study firms, or at a co-located farmers' market.

## **Price survey of online and offline vendors**

A price survey of comparable products was undertaken to better understand if the online case study vendors sold products at higher or lower prices than offline farmers' markets operating in the same location. In the Canadian setting all prices were collected over a two week period in August 2011, while in Australia the comparison was carried out over four weeks in November 2011. The longer data collection period in Australia was required because markets in Melbourne tend to occur monthly, while in Vancouver they are more often weekly. Prices listed for farmers' markets may represent an average price where the product was sold at multiple markets at different prices.

In the Canadian context a total of 24 products were compared between FFH and Vancouver farmers' markets, while only 11 products sold by Fresh BC were comparable for the purposes of this study. The products compared were predominantly fresh fruit and vegetables, however, a limited number of packaged and processed items, like honey and meat are also included.

Across the 24 products surveyed, FFH was more expensive than the Vancouver farmers' markets for 17 of the items, which equates to 71% of the products compared. The 11 comparisons made between FFH and Fresh BC, FFH products were more expensive in 8 comparisons, which equates to 73% of comparisons made. Conversely, 8 of the 11, or 73%, of Fresh BC products examined were cheaper than, or the same prices as, the comparable farmers' market product.

The number of products compared for this price survey is not sufficient to give a solid figure on average percentage price difference between vendors, this being an opportunity for future research. However the data collected does suggest that FFH is the most expensive outlet, followed by farmers' markets, and that Fresh BC is the least expensive outlet. However, it should be remembered that these prices are sticker prices only and do not include the additional cost incurred by the consumer in obtaining the items; including for example, the time and transportation costs involved in getting to and from the farmers' market.

In the Australian context, 17 products were compared between Gaia's Table and four farmers' markets operating in greater Melbourne. The results of the Australian comparison, displayed in Figure 38, were closer than in Vancouver, with 9 of the 17 Gaia's Table products, or 53%, being more expensive. Those items that were more expensive were also quite close in price to the relevant farmers' market item.

Viewed cumulatively these results suggest online vendors have slightly higher prices on average than do offline farmers' markets. Across the 41 observations made across both study sites, farmers' markets had lower prices in approximately 54% of cases, while online AFS had cheaper prices in 39% of cases. In 7% of cases prices were equal.

### **Results from open response consumer survey questions**

In addition the semi-structured interview questions asked of organisational actors, a 15 question survey instrument (Appendix B) was used to capture information from customers who bought products from the case study firms and customers who used co-located farmers' markets, but did not shop for food online. All respondents were asked a range of open response and multiple choice questions. The following section deals with the open response data, while the subsequent sections of this chapter examine data from the multiple choice questions.

Respondents were asked to detail in their own words what they 'liked' most about shopping at the study site. Responses ranged from one word answers to multiple sentences describing many separate positive attributes perceived by the consumer.

Two methods were used to analyse these open response data. The first used the online program *wordle.com* (hereafter Wordle). This program accepts text data, which is then analysed by the program and displayed in a way which excludes the most common English language words. For example it does not include words such as: it, the, and etc. The remaining words are then displayed in different size text according to the frequency with which the word appears in the original text, with the most common words appearing in the largest font. While the images produced by Wordle are not displayed here, some of the most common words used by respondents are identified by italic font when discussed in this section.

The second form of analysis involved the researcher reading the comments for each study site and coding these into common themes. This method allows for the identification of common themes between respondents that may not have been picked up by Wordle, due to their use of slightly different language to describe essentially the same phenomenon. The top 10 positive aspects identified within each study site are displayed in rank order along with a percentage figure indicating the prevalent of this motivation amongst respondent.

## FFH

The Wordle image created for FFH customers indicated that customers primarily value the service because it offers *delivery of local, organic food* to their *door*. They find this service offers *convenience* while also ensuring the product they receive is *fresh*.

A closure reading and coding of their comments revealed how uniformly respondents value convenience, with almost 80% of FFH respondents mentioning convenience as a positive motivating factor. The fact the food on offer was local and organic was also highly significant for FFH consumers. Other interesting themes include the fact some consumers felt food from FFH was information rich, and keenly priced.

Table 10: Researcher defined ‘like’ categories and frequency of occurrence for FFH customers

FFH	
Convenience	79.7%
Local food	35.1%
Organic food	23.0%
Range/variety	20.3%
Quality products	17.6%
Information rich	9.5%
Environmentally friendly company	9.5%
Avoiding supermarkets	6.8%
Price/value	4.1%
Enjoy surprise factor	4.1%

## Fresh BC

In their own words, Fresh BC customers also mentioned the fact *produce* was *local* and *organic* and generally of high *quality*. Significantly, the sense of *community* fostered by Fresh BC was important to these customers.

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Table 11: Researcher defined ‘like’ categories and frequency of occurrence for Fresh BC customers

Fresh BC	
Convenience	55.2%
Local food	44.8%
Organic food	20.7%
Sense of community	17.2%
Information rich	10.3%
Sustainability	10.3%
Price/value	6.9%

Interestingly, when the researcher analysed the comments by Fresh BC customers a much stronger focus on convenience was identified, than was initially evident from the Wordle analysis. A full 55% of respondents mentioned, in one way or another, their appreciation of the fact Fresh BC made obtaining local and organic food more convenient. For example, one respondent stated:

*Its handy; I can pick and choose what I want; it supports local farmers; the food is fresh; it gets delivered right next door* (Fresh BC Customer).

A significant portion of customers, also stated that they liked the fact it was a ‘community project’. Like FFH customers, a small but relevant number of customers also mentioned their appreciation of the fact the food they bought was information rich and reasonably priced.

### **Vancouver farmers’ markets**

Vancouver farmers’ market customers used the word *local* with higher relative frequency compared with online customers. The word *fresh* is also used more often by farmers’ market customers than by online customers. Vancouver farmers’ markets customers also use a number of words which are unique within the Canadian context. They are: *farmers*, *friendly*, and *atmosphere*.

Table 12: Researcher defined ‘like’ categories and frequency of occurrence for Vancouver farmer’s market customers

Vancouver FMs	
Quality food	59.2%
Local food	46.1%
Organic food	25.0%
Atmosphere	22.4%
Interpersonal relationship with vendor	18.4%
Supports farmers and local businesses	17.1%
Builds a sense of community	15.8%
Range/variety	10.5%
Information rich	10.5%
Outdoors event	5.3%

When the word *fresh* is interpreted as one of a number of intrinsic product qualities which can be attributed to food, it becomes apparent that this type of quality is highly significant to Vancouver farmers’ market customers, with nearly 60% of customers stating the market gives them access to high quality food. The fact those foods are produced locally and therefore support local farmers and businesses is also important, as is the fact that they are often organically produced. The fact farmers’ markets provide a pleasant, social atmosphere where customers can meet the people who make and grow their own food is also important, particularly because this allows the customers to gain more information about their food.

### Gaia’s Table

Within the Australian context, the online shoppers at Gaia’s Table prioritised the words *organic* and *local* to describe the food they liked being able to buy. They also incorporated both the words *convenience* and *farmers* together, whereas they were separate within the Canadian context between online and offline customers. Significantly, Gaia’s Table customers are the only ones for which the word *price* comes up within the Wordle analysis.

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Table 13: Researcher defined ‘like’ categories and frequency of occurrence for Gaia’s Table customers

Gaia’s Table	
Quality food	35.6%
Convenience	34.7%
Organic food	33.9%
Local food	33.1%
Price/value	23.7%
Sustainability	14.4%
Seasonal food	11.9%
Builds sense of community	9.3%
Variety	7.6%
Avoiding supermarkets	7.6%

The researcher coding of open responses from Gaia’s Table customers shows the most evenly distributed set of perceived positive attributes of all respondents. Similar to the other groups of respondents, food quality, convenience, and the fact it is organic and local are all of central importance. Significantly, affordable prices and good value for money is more highly valued by Gaia’s Table customers than the other consumers surveyed, with almost a quarter of respondents making mention of this perceived positive attribute. Another interesting finding was the number of respondents who made specific mention of the fact the service lets them avoid shopping at supermarkets.

### Melbourne farmers’ markets

The response of Melbourne farmers’ market customers is similar in many ways to that of Vancouver farmers’ market customers. According to the Wordle analysis they value the ability to buy *fresh produce*, *direct from farmers* in an enjoyable *atmosphere*.

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Table 14: Researcher defined ‘like’ categories and frequency of occurrence for Melbourne farmers’ market customers

<b>Melb FM</b>	
Quality food	59.7%
Interpersonal relations with farmer	26.4%
Atmosphere	23.6%
Organic food	18.1%
Local food	18.1%
Range/Variety	12.5%
Outdoors event	11.1%
Builds sense of community	9.7%
Price/value	8.3%
Information rich	5.6%

The proportion of Melbourne farmers’ market respondents who mentioned intrinsic food quality was similar to Vancouver farmers’ markets respondents, at almost 60%. However, Melbourne respondents seemed to more uniformly value the opportunity for interpersonal contact with farmers and the enjoyable atmosphere at farmers’ markets. Melbourne farmers’ market customers were the only offline customers to mention price and value related concepts as motivating forces for shopping there.

### **Results from multiple choice consumer survey questions**

This section details consumer responses to a diverse range of multiple choice questions. These questions gathered information on consumers shopping behaviour and motivations as well as demographic data about the consumers themselves. As with the survey responses listed so far, responses are derived from both customers of the online case study firms and from offline customers of co-located farmers’ markets.

In most cases, results are first displayed at the firm/farmers’ market level for both Australia and Canada separately. Where possible, these responses are also aggregated to offer insight into the comparative actions, motivations and characteristics of online and offline shoppers. That is, consumers who do regularly buy local/organic food through the internet and those who do not.

Where possible, Pearson's Chi-Square analysis has been carried out on all comparisons in an effort to highlight statistically significant associations between online shopping and particular behaviours, motivations and demographic characteristics. In addition, the results of a logistic regression analysis are provided in relation to consumer shopping motivations and demographics for the purposes developing a descriptive model of the key characteristics and motivations of online AFS shoppers relative to offline AFS shoppers.

### **Average spend per shopper**

Farmers' markets tend to operate intermittently, for example, often once a week in Vancouver, or once a month in Australia. As a result, farmers' market consumers are limited in their ability spend money on the products sold there, relative to other retail formats such as supermarkets which are open for extended hours, most days of the year. Therefore one of the ways online retailers may be expanding the demand for AFS products is by enabling customers to spend more frequently on this style of food, simply by the fact they are open for business more regularly. Indeed, orders can effectively be taken 24hrs a day 7 days a week via a website. However, while customers are able to order at any time, the fact remains that at least in terms of the firms investigated for this study, the actual delivery of products generally only takes place once per week. As such, online ordering is not a replacement for local convenience stores which rely on sporadic demand, but it does at least provide increased flexibility to conduct a purchase, relative to farmers' markets.

In order to gather information on how much money consumers spend through the two types of shopping medium investigated, that is online and offline AFS, consumers were asked two questions. The first asked how much the consumer spent on their last shopping occasion with the case study firm or farmers' market, while the second asked how regularly they shopped via that medium. From this information an estimate of the average weekly spend of customers was calculated. This method of calculating average spend is susceptible to bias associated with one off events, for example, if customers were asked in the week before a major public holiday like Christmas. However, it was used because the researcher felt customers could more accurately remember their last spend and how frequently they shop at the location, than they could accurately calculate an average spend figure quickly in their heads.

Table 15: Mean customer expenditure by firm

	<b>FFH (75)</b>	<b>Fresh BC (30)</b>	<b>Van FM (76)</b>	<b>Gaia's Table (120)</b>	<b>Melb FM (74)</b>
Last Spend	\$78.5	\$43.5	\$35.1	\$48.8	\$51.1
Adjusted Average Weekly Spend	\$63.1	\$27.3	\$24.5	\$33.6	\$28.8

A clear gap is evident in Table 15, between the amount of money customers spent on their last shopping occasion and the amount they spend on average. The reason the last spend figure is higher for all study sites is because many respondents stated they shopped at a less-than-weekly frequency. An additional point which stands out from this table is that FFH customers spend considerably more per week than customers at any of the other study sites. This could be because they offer a product selection and delivery format which is more aligned with customer's primary weekly shopping needs.

Indeed, the average spend figures detailed in Table 15 suggest FFH customers may be doing the bulk of their shopping with this firm, while other customers are shopping for a smaller selection of items at the retail site with which they are associated in this study. However, moderating this assumption is the fact that the higher prices observed at FFH would also influence the average spend of customers, as they would have to outlay more to obtain the same quantity of goods.

Table 16: Mean spend by Online/Offline and country

<b>Country</b>	<b>Spend</b>	<b>Online (225)</b>	<b>Offline (150)</b>	<b>p<sup>1</sup></b>
Australia	Last Spend	\$48.8	\$51.1	0.499
	Adjusted Spend	\$33.6	\$28.9	0.044
Canada	Last Spend	\$68.7	\$35.1	<.000
	Adjusted Spend	\$52.8	\$24.5	<.000

1: Statistical significance calculated using Anova

It can be seen from Table 16 that on average, online customers in Canada spend approximately 50% more per week compared with offline farmers' market customers, while in Australia the comparison is quite different, with farmers' market customers reporting a higher last spend, but exhibiting a lower average weekly spend. Another significant finding is

that the difference between last spend and the adjusted weekly average spend is significantly smaller for online customers than farmers' market customers. The adjusted figure was on average 23% smaller for Canadian online respondents, while for the offline farmers' market respondents it was 34% smaller. In Australia the reduction was 31% for online consumers and 43% for farmers' market customers. This finding reflects the fact that online customers use the medium more frequently for buying local/organic food than the offline farmers' markets customers.

The differences in aggregated data shown in Table 16 highlights some of cultural and economic differences between Australia and Canada, such as the fact that farmers' markets tend to be held more frequently in Vancouver than in Melbourne, which may explain why Vancouver farmers' market customers spend less money per shop. However, the ability to infer from this and other international comparisons made within this study is limited by the fact that the differences between the case study firms is not controlled for. As a result some level of the variation between the Canadian and Australian Case study sites is likely to be related to the differences between the case study firms.

### **Frequency of use of case study site**

The data displayed in Table 17 on the following page, confirms that online shoppers use that shopping medium more frequently than offline farmers' market customers. A full 70% of FFH customers use the service on a weekly basis, compared with around 45% of Vancouver farmers' market customers. However, what is not captured in these figures is the fact FFH operates for the full 12 months of the year, while Vancouver's farmers' markets tend only to operate between early May and early October due to the climatic constraints. Thus, when this is taken into account the frequency of use averaged over the entire year would be even more in favour of the online retail format. In Australia, Gaia's Table customers are also significantly more likely to shop weekly with that medium than are farmers' market customers who are more much more likely to shop via that medium on a monthly basis.

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Table 17: Percentage of shoppers using study sites by frequency of use

<b>Frequency of use</b>	<b>FFH (72)</b>	<b>Fresh BC (28)</b>	<b>VanFM (76)</b>	<b>Gaia's Table (113)</b>	<b>MelbFM (73)</b>	<b>p<sup>1</sup></b>
> Once per week	1.4%	3.6%	9.2%	0.9%	0.0%	0.003
Once per week	70.8%	39.3%	44.7%	55.8%	37.0%	<.000
Every two weeks	23.6%	32.1%	21.1%	31.0%	30.1%	0.496
Once per month	2.8%	17.9%	13.2%	6.2%	26.0%	<.000
Every couple of months	1.4%	7.1%	6.6%	4.4%	2.7%	0.473
Once or twice a year	0.0%	0.0%	3.9%	0.0%	2.7%	0.105
Never	0.0%	0.0%	1.3%	1.8%	1.4%	0.799

1: Statistical significance calculated using chi-square

Table 18: Frequency of study site use by online and offline consumers

<b>Frequency of use</b>	<b>Online (213)</b>	<b>Offline (149)</b>	<b>p<sup>1</sup></b>
> Once per week	1.4%	4.7%	0.06
Once per week	58.7%	40.9%	0.001
Every two weeks	28.6%	25.5%	0.296
Once per month	6.6%	19.5%	<.000
Every couple of months	3.8%	4.7%	0.425
Once or twice a year	0.0%	3.4%	0.011
Never	0.9%	1.3%	0.545

1: Statistical significance calculated using chi-square

### Frequency of use of alternate grocery retail mediums

In addition to asking respondents how regularly they shopped at their respective study sites, they were also asked how frequently they shopped at a range of other types of grocery store. The results show that Australian customers frequented 'large' grocery stores on a more regular basis than Canadian shoppers, reflecting the high level of market domination of two large supermarket chains in Australia.



Table 19: Percentage of respondents who reported using alternate shopping venues frequently ( $\geq$ once per week).

Type of store	FFH (72)	Fresh BC (28)	VanFM (76)	Gaia's Table (113)	MelbFM (73)	p <sup>1</sup>
Large grocery store	25.0%	18.5%	42.1%	48.7%	68.5%	<.000
Small grocery store	33.3%	59.3%	72.4%	46.3%	60.3%	<.000
Convenience store	1.6%	4.2%	11.8%	7.9%	4.1%	0.122
Specialty store	13.4%	18.5%	36.0%	39.3%	54.8%	<.000

1: Statistical significance calculated using chi-square

Furthermore, it can be seen from Table 19, which shows consolidated figures for both online and offline shoppers, that there is a clear tendency for offline shoppers to more frequently use other food retail formats on a regular basis, that is, once or more per week. For example, approximately 37% of online shoppers visit large grocery stores on a frequent basis, as opposed to 55% of offline shoppers.

Table 20: Percentage of respondents who use alternate shopping venues frequently (once or more per week) by online/offline

Type of store	Online (214)	Offline (149)	p <sup>1</sup>
Large grocery store	36.9%	55.0%	<.000
Small grocery store	43.8%	66.4%	<.000
Convenience store	5.3%	8.1%	0.215
Specialty store	27.9%	45.3%	<.001

1: Statistical significance calculated using chi-square

This further suggests that online shoppers are better able to satisfy the majority of their shopping requirements as a result of using that medium, unlike farmers' market shoppers who must frequent other shopping outlets to fulfil their needs.

### Online shoppers attendance at farmers' markets

While only results for farmers' market customers who stated they did not shop for food online were included in this study, online shoppers who also shopped at farmers' markets were accepted. Details in relation to how online consumers have changed their attendance at farmers' markets, subsequent to commencing to buy local/organic food online, are shown

below in Table 21. These results show that a significant proportion of online shoppers claim that have reduced their use of farmers' markets since commencing use of one of the case study firms. A significant number have even gone so far as to stop going to farmers' markets at all. These findings suggest that the online businesses examined are a viable and attractive substitute to farmers' markets for many customers. Another significant finding is that many customers who now access local/organic foods online have not previously shopped at a farmers' market.

Table 21: Attendance at farmers' markets by online shoppers

<b>Attendance at farmers' markets</b>	<b>FFH (72)</b>	<b>Fresh BC (28)</b>	<b>Gaia's Table (113)</b>
Yes, I still go regularly	33.3%	13.3%	16.7%
Yes, but less frequently	38.7%	56.7%	37.5%
No, I've stopped going	20.0%	13.3%	10.0%
No, I've never gone	8.0%	16.7%	35.8%
Total	100.0%	100.0%	100.0%

### **Time spent shopping excluding travel**

One possible reason that existing farmers' market customers may reduce their use of that medium in favour of online aggregators of local/organic food is that they find the latter option more convenient. Similarly, customers who did not previously shop at farmers' markets, but do shop at the online study sites, may have perceived farmers' markets as insufficiently convenient. The difference in time taken by respondents to complete their shopping task, abstracting from the time it takes for travel to and from the shopping/food collection site, is displayed overleaf in Table 22. These results clearly show that a strong majority of Fresh BC and Gaia's Table customers are able to complete the shopping task in less than 15 minutes. Fewer FFH customers complete the task in that amount of time, with this perhaps being explained by the greater product range on offer at FFH, meaning customers spend more time making decisions and selections.

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Table 22: Required time to complete food shopping task at different study sites

<b>Time</b>	<b>FFH (72)</b>	<b>Fresh BC (28)</b>	<b>VanFM (76)</b>	<b>Gaia's Table (113)</b>	<b>MelbFM (73)</b>	<b>p<sup>1</sup></b>
Less than 15 minutes	48.0%	90.0%	7.9%	86.7%	8.9%	<.000
15-30 minutes	42.7%	6.7%	32.9%	7.5%	24.3%	<.000
30-60 minutes	9.3%	3.1%	39.5%	0.0%	36.5%	<.000
More than 60 minutes	0.0%	0.0%	19.7%	1.7%	31.1%	<.000

1: Statistical significance calculated using chi-square

Looked at cumulatively, we see an even clearer association between shopping online and being able to complete the task in a short period of time. The most common length of time taken to complete the shopping task for offline farmers' market customers was 31 minutes to an hour, as opposed to less than 15 minutes for the online shoppers.

Table 23: Time required to complete shopping task for online and offline customers

<b>Time</b>	<b>Online (225)</b>	<b>Online (150)</b>	<b>p<sup>1</sup></b>
Less than 15 minutes	74.2%	8.0%	<.000
15-30 minutes	19.1%	28.7%	<.000
30-60 minutes	3.6%	38.0%	<.000
More than 60 minutes	0.9%	25.3%	<.000

1: Statistical significance calculated using chi-square

From this information it is possible to ascribe a rough indication of how these different levels of convenience affect the economic value that consumers receive. Because grocery shopping is not a task that most people are paid to do, that is, the task is not traded in a market, there is no straightforward method for arriving at a value for a reduction in shopping time. The most common method employed to ascribe a value to non-working time, as often used by studies seeking to understand peoples' valuation of reduced travel time resulting from transport system improvements, is to simply to ask people via a willingness-to-pay (WTP) survey (Lake & Ferreira 2002). However, the survey employed in this study did not employ WTP questions and therefore relies on a review of the time valuation literature conducted by Lake and Ferreira (2002), who found that non-working time is generally valued at a percentage rate of the average hourly wage in the area under consideration. The percentage figure used within the valuation studies considered by Lake and Ferreira varied between 10% and 45% of

the average wage in the study location. Within this study the midpoint in this range is used, giving an estimated value for shopping time saved at 27.5% of the average hourly wage.

It is not possible to calculate an exact average shopping time for either online or offline shoppers based on the data collected in this study. However, if the midpoint of the most commonly reported time bracket is used, an approximation can be arrived at. Following this method, an estimated average shopping time for online shoppers is 7.5 minutes and 45 minutes for offline shoppers. Both estimates exclude travel time. The differences between these two times, 37.5 minutes, can be used to then estimate a financial value for the added convenience of online shopping relative to farmers' markets. Given an average adult wage of \$AU31.45 per hour, or \$19.65 for 37.5 minutes, in Australia in 2011 (Australian Bureau of Statistics 2012), the approximate saving for online shoppers would be equal to 27.5% of \$19.65 or \$AU5.40 per grocery shop. In Vancouver, the average adult hourly wage for all workers in 2011 was \$CA26.20 per hour or \$16.37 for 37.5 minutes (Statistics Canada 2012). Therefore the approximate value of time saved by online AFS shoppers in Vancouver is \$CA4.50.

According to Kotzab and Teller (2005) consumers are unwilling or unable to put a financial value on the time and effort saved in ordering products online and having them delivered to them. However, the strong prevalence of people volunteering the concept of convenience as a motivating force behind their choice to shop with the online AFS firms included in this study, suggests that these shoppers certainly do value this saving, even if they can't put a dollar figure on it. The basic calculation performed above, while not precise, does suggest that time saved by shopping for food online, excluding the potential time saving associated with reduced travel, is likely to be in the region of 10% of the average order value. This is likely to be considered a material saving by many shoppers and may account for a willingness to bear higher average sticker prices for food bought through online AFS.

### **New acquaintances made**

However, convenience is not the only reason, or even a significant one, that people shop at farmers' markets. The open responses answers examined earlier in this chapter highlight that people value being able to develop personal relationships with farmers and food producers at farmers' markets, as well as enjoying a social and 'community' atmosphere. The different types of relationship that customers forged as a result of shopping either online or at a

farmers' market are shown in Table 23. The question which produced these results asked respondents about the development of any new relationships or connections, at the level of an 'acquaintance' as a result of using that shopping medium.

Table 24: New acquaintances made by customers at different study sites

<b>New Acquaintances</b>	<b>FFH (72)</b>	<b>Fresh BC (28)</b>	<b>VanFM (76)</b>	<b>Gaia's Table (113)</b>	<b>MelbFM (73)</b>	<b>p<sup>1</sup></b>
None	72.0%	30.0%	0.0%	74.2%	5.2%	<.000
Employees/volunteers	6.7%	43.0%	11.8%	4.2%	0.0%	<.000
Farmers	8.0%	16.7%	36.8%	0.8%	41.9%	<.000
Other food producers	10.7%	6.7%	23.7%	0.8%	12.2%	<.000
Other customers	5.3%	50.0%	14.5%	19.2%	2.7%	<.000

1: Statistical significance calculated using chi-square

The most obvious finding from this data is that the majority of the customers using FFH and Gaia's Table have not made any new relationships or connections as a result of buying food via these businesses. However, the customers of the third online vendor, Fresh BC, have more often than not made a new relationship. Perhaps reflecting the small relative size of Fresh BC and the fact it is a co-operative enterprise, many Fresh BC respondents reported forming new relationships with both staff and volunteers, as well as with other customers. One fifth of all Gaia's Table customers also report forming a new relationship with other members. Combined with the Fresh BC result, this points to the ability of the hub and node delivery model, which is employed by these two firms but not by FFH, to increase the level of connection between consumers.

Viewed collectively, we see from Table 25 that offline farmers' market customers are significantly more likely than online shoppers to form new relationships as a result of using that shopping medium. Also, the types of relationships formed are quite different. Offline shoppers are much more likely to develop a new relationship with a farmer, or 'other' local food producer; while online shoppers are more likely to develop a new relationship with other customers.

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Table 25: New acquaintances made by online and offline customers

<b>New acquaintances</b>	<b>Online (213)</b>	<b>Offline (149)</b>	<b>p<sup>1</sup></b>
None	67.6%	2.7%	<.000
Employees/volunteers	10.2%	6.0%	<.105
Farmers	5.3%	39.3%	<.000
Other food producers	4.9%	18.0%	<.000
Other customers	18.7%	8.7%	<.005

1: Statistical significance calculated using chi-square

### **Shopping motivations/demographic details and logistic regression**

In addition to open response questions which asked customers what they most ‘liked’ about shopping through their respective medium, respondents were also asked to rank the importance of a range of issues they might consider when buying food. Answers to these questions are useful both for comparing with their earlier open response answers, and because they require customers to state a position on a range of issues relevant to the conventions of quality which are understood to relate to the various ‘worlds of justification’ outlined by conventions theorists (Boltanski & Thévenot 2006 [1991]). Significant differences between the online and offline consumers when answering these questions would suggest that different food system outcomes may emerge over time, assuming that what is important to the end consumer is likely to flow through to the action of firms within the broader supply chain or network.

For each issue nominated, consumers were asked to assign a rank along a four point Likert scale, with the following options: not important; somewhat important; important; very important. For the purposes of clarity, when this data is presented below in Table 26 and Table 27, the results only tabulate the percentage of respondents who signalled a particular issue was either important or very important to them. That is, the results show the proportion of respondents who responded in the affirmative when asked if a particular issue or shopping motivation was of importance to them when buying food.

A Pearson’s chi square test was used to assess the significance of associations between being either an online or offline shopper, and importance being placed on any particular issue. This analysis was carried out using responses across the full four point Likert response scale

included in the survey. Interestingly, online shoppers reported being more concerned about all issues for which a significant difference in concern was identified.

Table 26: Comparison of food shopping motivations and considerations deemed important by online and offline customers in Canada

<b>Motivation/consideration</b>	<b>Online (101)</b>	<b>Offline (76)</b>	<b>p<sup>1</sup></b>
Nutrition	99.0%	94.7%	0.108
Brand	15.2%	6.6%	0.061
Low price	51.5%	30.3%	0.004
Ease of preparation	32.7%	26.3%	0.228
In season	91.9%	86.8%	0.199
Appearance of product	58.0%	56.6%	0.486
Appearance of packaging	5.0%	17.1%	0.009
Convenience	69.0%	50.0%	0.008
Grown within 100km	82.7%	75.0%	0.148
Grown within state/province	87.9%	76.3%	0.038
Grown within nation/country	85.7%	66.7%	0.044
Knowing grower	25.3%	31.3%	0.246
Certified organic	80.0%	51.6%	0.001
‘Natural’ but not certified	79.2%	66.2%	0.04
Fair trade	77.8%	71.1%	0.2
Food safety	86.0%	76.7%	0.086
Animal welfare	88.0%	81.6%	0.165

1: Statistical significance calculated using chi-square

Issues which generated significant motivational difference between online and offline consumers in Canada included whether or not the product had a ‘low price’ and was ‘convenient’ to buy. In addition, online consumers were also more motivated by issues associated with provenance, such as whether the product was grown/produced in the consumers’ state/province or country. Finally, online consumers also indicated that they were relatively more concerned about whether the product had been produced ‘naturally’ or was ‘certified organic’. Interestingly the only issue upon which offline consumers in Canada placed significantly greater emphasis was upon the aesthetics of product packaging, although this was not a concern that was shared by a majority of either online or offline consumers in Canada.

Table 27: Comparison of food shopping motivations and considerations deemed important by online and offline customers in Australia

<b>Motivation/consideration</b>	<b>Online (112)</b>	<b>Offline (74)</b>	<b>p<sup>1</sup></b>
Nutrition	94.6%	91.9%	0.324
Brand	20.6%	9.7%	0.4
Low price	40.2%	17.6%	0.01
Ease of preparation	23.9%	21.6%	0.432
In season	88.5%	95.9%	0.061
Appearance of product	55.3%	59.5%	0.336
Appearance of packaging	9.8%	10.8%	0.506
Convenience	73.2%	53.7%	0.003
Grown within 100km	80.5%	67.6%	0.034
Grown within state/province	80.5%	73.0%	0.151
Grown within nation/country	92.9%	73.0%	<.000
Knowing grower	27.5%	30.6%	0.391
Certified organic	69.6%	51.4%	0.008
‘Natural’ but not certified	68.5%	64.8%	0.361
Fair trade	86.5%	68.5%	0.003
Food safety	85.0%	77.0%	0.119
Animal welfare	89.0%	85.1%	0.291

1: Statistical significance calculated using chi-square

Online consumers in Australia shared many of the same differences in motivation, relative to offline farmers’ market customers, as did online shoppers in Canada. For example, they also placed greater emphasis on whether or not a product has a ‘low price’ and is ‘convenient’ to access. Furthermore, they also reported being more motivated by issues related to food provenance, including whether food was grown within the 100km or within Australia more broadly. Finally, like the Canadian respondents, online shoppers in Australia reported being more motivated to buy certified organic products than did offline farmers’ market shoppers, while issues associated with ‘fair trade’ were also of significant importance to these consumers.

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Table 28: Comparison of food shopping motivations and consideration for online and offline customers across both Australia and Canada

<b>Motivation/consideration</b>	<b>Online (213)</b>	<b>Offline (150)</b>	<b>p<sup>1</sup></b>
Nutrition	97.6%	93.9%	0.04
Brand	18.0%	8.1%	0.02
Low price	45.5%	24.0%	<.000
Ease of preparation	28.1%	24.0%	0.059
In Season	90.1%	91.3%	0.552
Appearance of product	56.5%	58.0%	0.944
Appearance of packaging	7.5%	14.0%	0.122
Convenience	71.2%	51.3%	<.000
Grown within 100km	81.5%	71.3%	0.023
Grown within state/province	84.0%	74.7%	0.044
Grown within nation/country	91.5%	69.8%	<.000
Knowing grower	26.4%	30.9%	0.273
Certified organic	74.6%	54.0%	<.000
'Natural' but not certified	73.6%	65.5%	0.038
Fair trade	82.4%	69.8%	0.032
Food safety	85.4%	76.9%	<.00
Animal welfare	88.5%	83.3%	0.018

1: Statistical significance calculated using chi-square

Interestingly, the contrast between the shopping motivations of online and offline AFS consumers becomes more pronounced when not separated according to study site location. In addition to the issues of low price, convenience and provenance, which were common to online consumers in both Canada and Australia, the collective assessment shows that online consumer also show greater concern in relation to nutrition, the ability to buy known brands, food safety and animal welfare at the .05 level of significance.

### **Principle Component Analysis**

In order to look for underlying factors which may prompt people to answer the shopping motivation questions in particular ways, this study employs a principle component analysis to reduce the 17 food shopping motivations consumers were asked to rank, down to a smaller number of 'principle components' which are capable of explaining a high degree of the

variance between consumers responses. These principle components represent the degree of statistical cohesion in the way that respondents collectively answered particular questions in relation to others, such that it is possible to infer that the motivations within each component are linked by a common concern or issue. That is, the principle component analysis enables the identification of latent motivations via an examination of commonalities in the way questions about overt motivations are answered (Anglim 2007). These clusters of motivation can then be more readily assessed in relation to the six worlds of justification outlined in Table 1, as the fact they represent shared motivations, accords with the idea that conventions themselves only exist to the extent they represent shared means of comprehending and navigating day to day life.

The statistical appropriateness of principle component analysis for the survey data gathered in relation to the motivations of online consumers is assessed via the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA), which according to Anglim (2007, p. 14), is a 'good general summary of the applicability of the data'. The MSA may range between zero and one, with higher measurements being more desirable. With an MSA of .800 the principle component analysis result shown below for the combined data set of both online consumers and farmer's market consumers is in the upper middle range of acceptability for this test, with .6 considered the minimum MSA required (Anglim 2007).

The results of the principle component analysis displayed in Table 29 show that these shopping motivations as they related to both online and offline AFS shoppers can be reduced to four underlying principle components. The amount of variance explained by each component reduces from left to right, with the first component titled 'Proximity' accounting for the largest grouping of answers, with the last component 'Image' accounting for the least variance and smallest group of answers. The process of naming the principle components is led by the data, yet is still somewhat subjective, with the researcher searching for a common theme that joins the constituent parts.

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Table 29: Principle component analysis of shopping motivations for both online AFS consumers and offline farmer's market shoppers

<b>n=366</b>				
	<b>Proximity</b>	<b>Production Factors</b>	<b>Cost Minimisation</b>	<b>Image</b>
Nutrition	0.072	0.653	0.06	0.108
Brand	0.05	0.079	0.015	0.59
Low price	0.125	-0.048	0.73	-0.028
Ease of preparation	-0.065	0.022	0.635	0.246
In season	0.519	0.268	0.099	-0.155
Appearance of product	-0.119	0.162	0.167	0.664
Appearance of package	0.077	-0.121	0.154	0.746
Convenience	-0.04	0.003	0.726	0.148
Grown within 100km	0.782	0.285	0.023	0.034
Grown in state	0.793	0.251	-0.033	0.096
Grown in country/nation	0.532	-0.126	-0.361	0.193
Knowing grower	0.608	0.144	0.043	0
Certified organic	0.213	0.652	0.025	-0.148
'Natural' but not certified	0.43	0.507	0.049	-0.207
Fair trade	0.495	0.544	-0.061	-0.065
Food safety	0.098	0.664	-0.034	0.238
Animal welfare	0.279	0.63	-0.069	0.098

The following principle components were identified for the combined data set including both online AFS consumers and offline farmers' market consumers:

- Proximity

The principle component analysis of the combined data set confirms that AFS consumers as a group are strongly interested in the localness of the items they purchase as defined by physical proximity. While the geographic scales of distance extend from less than 100km to the nation as a whole, the underlying theme is geographic proximity. The inclusion of the factors 'In season' and 'knowing the grower' are also related to proximity as seasons are inherently linked to geographic place, and the likelihood of personally knowing a producer increases with physical proximity.

- Production Factors

This component is concerned with how the conditions under which a product was grown and/or manufactured. Factor groups within this component include whether a product was grown/produced using 'organic' or 'natural' methods and whether production involved

‘fair trade’ with production partners and maintained high standards of ‘animal welfare’. Interestingly consumers also grouped the factors ‘nutrition’ and ‘food safety’ into this component, suggesting they viewed nutritious and safe food to be an outcome of particular production factors.

- Cost minimisation

Consumers answered the shopping motivation questions in a manner that showed that ‘low price’, ‘ease of preparation’ and ‘convenience’ were linked. Given that these qualities all equate into reduced financial costs and time commitments these factors seem related the minimisation of cost borne directly by the consumer. However it can be seen from the results shown in Table 29, that these factors are not particularly important to the consumers surveyed.

- Image

The combined data set of consumer responses shows that consumers conflate product ‘brands’ along with the ‘appearance of product’ and ‘appearance of packaging’ in which the product is sold. This suggests that consumers view issues such as brand as a somewhat superficial factor of similar importance to packaging. This factor has been termed ‘Image’. As with the component cost minimisation, it can be seen from the results in Table 29, that the factors included in this component are not viewed as being particularly important to these consumers.

In order to assess the contribution that online and offline consumers make individually to these combined components, a secondary principle component analyses have been carried out on independent data sets for both online and offline farmer’s market consumers respectively. These independent results show the unique combination of issues which influence online and offline consumers respectively when shopping for food.

The principle component analysis performed on the data for online shoppers returned a MSA of .764, demonstrating that this individual dataset was amenable to this form of analysis, with the MSA being greater than the .600 threshold.

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Table 30: Principle component analysis of shopping motivations for online shoppers

<b>n=216</b>				
	<b>Provenance</b>	<b>Product Integrity</b>	<b>Cost Minimisation</b>	<b>Image</b>
Nutrition	.121	.681	-.057	.251
Brand	.040	.097	-.007	.619
Low price	.160	-.068	.725	-.031
Ease of preparation	-.116	.031	.758	.166
In season	.588	.219	.001	-.122
Appearance of product	-.099	.335	.111	.619
Appearance of package	.046	-.186	.215	.720
Convenience	-.072	.093	.679	.116
Grown within 100km	.794	.179	-.066	.096
Grown in state	.818	.103	-.086	.156
Grown in country/nation	.433	-.355	-.285	.249
Knowing grower	.649	-.110	.189	-.071
Certified organic	.375	.614	.047	-.165
'Natural' but not certified	.581	.378	-.001	-.265
Fair trade	.663	.266	-.111	-.024
Food safety	.341	.484	.083	.116
Animal welfare	.485	.366	.022	.194

The results of this principle component analysis show that the shopping motivations of online AFS shoppers can also be reduced to four underlying principle components. The amount of variance explained by each component reduces from left to right, with the first component titled 'Provenance' accounting for the largest grouping of answers, with the last component 'Image' accounting for the least variance and smallest group of answers.

- Provenance - Incorporates a predominance of motivational issues associated with geographic proximity and place. A concern for where a product is grown or produced is a by definition a concern for provenance, while issues such as whether or not the item can be purchased 'in season', or from a person who is known to the consumer also speak to the idea of proximity and a desire for knowledge about origins. While other issues such as animal welfare, fair trade and whether a product is 'natural but not certified' are less obviously concerned with geographic space, they do speak to a desire to know about food origins and the processes that underpin its production.
- Product integrity – this principle component speaks to the consumers' desire for wholeness in the products that they buy. At the most fundamental and utilitarian level, food is intended to provide nutritional sustenance to the consumer. As such, a concern for the nutritional quality of food is a concern for the fundamental integrity of the

product. Similarly, being motivated by the fact a product is ‘certified organic’ as opposed to ‘natural but not certified’ speaks to a desire for a third party assurance that the product is actually as it claims to be. Finally, concerns about food safety can also be understood as relevant to product integrity, where corruption or adulteration of the item may have severe repercussions for the consumer.

- Cost minimisation – In addition to a motivation toward food that has a ‘low price’, online consumers also conflate two other concepts that relate to the costs they ultimately bear. While some people certainly enjoy the act of acquiring food and preparing that food this is not the case for all consumers. However, whether these tasks are deemed enjoyable or not, they nonetheless require the dedication of time and effort that could be otherwise used. As such a reduction in the time that it takes to complete the food shopping task and prepare a meal, can both be understood as resulting in direct cost minimisation for the consumer.
- Image – The purchasing of a particular brand of product can offer the consumer physic reward in addition to material utility. The idea that brands can have distinct ‘personalities’ in part conveyed by the look and feel of a product, including via the product packaging illustrates the idea that products themselves both present an image and may, to a degree, impart that image upon the consumer – at least psychologically. Interestingly, the data collected on the individual motivational factors that make up this principle component suggest they tend not to be viewed as important motivating forces for these consumers. That is, this cluster represents product characteristics about which consumers are not positively disposed, or at least not motivated by.

A principle component analysis of the motivational factors as reported by offline farmers’ market customers is presented on the following page as Table 31.

Table 31: Principle component analysis of shopping motivations for offline farmers' market shoppers

<b>n=150</b>				
	<b>Production Factors</b>	<b>Proximity</b>	<b>Image</b>	<b>Cost Minimisation</b>
Nutrition	.731	.006	.010	.186
Brand	-.286	.334	.495	-.094
Low price	-.018	-.097	.168	.654
Ease of preparation	.059	-.032	.447	.246
In season	.483	.243	-.181	.502
Appearance of product	.086	-.126	.756	.106
Appearance of package	.006	.008	.769	.041
Convenience	-.191	.036	.392	.573
Grown within 100km	.279	.813	-.049	.105
Grown in state	.227	.836	.004	-.020
Grown in country/nation	.148	.657	-.016	-.115
Knowing the grower	.439	.396	.064	-.021
Certified organic	.475	.282	-.029	-.357
'Natural' but not certified	.487	.364	.002	-.065
Fair trade	.688	.332	-.044	.027
Food safety	.565	.095	.374	-.381
Animal welfare	.679	.192	-.018	-.189

The results of the principle component analysis for the offline consumers demonstrate that this data is also suitable for this type of analysis, returning an MSA score of 0.767. As with the data from the online consumers, this analysis reduced the data arising from 17 motivational questions down to four principle components. The four components identified for offline farmers' market customers include a number of similar concepts to those identified for online customers, however, the results indicate some differences in the way their concerns group together and the level of variance explained by each component. The four principle components identified are:

- **Production factors** – This grouping of concern is focused on issues associated with how a product is produced and by whom. While the issue of nutrition does not fit neatly into this group, it is possible that these consumers are associating the nutrition of a food item, with the production factors that underpin it. For example, if the food item is organically produced and is in season, a consumer may consider that to mean it is more likely to be nutritionally sound. Also, 'knowing the grower' affords the consumer a means of accessing additional information about production issues, such

as the extent to which the product is ‘natural’ and the conditions experienced by other participants in the production process including animals.

- Proximity - These respondents clearly held the proximity of food production to the place of consumption as a concept relevant to their shopping motivations. While the ideal distance between place of production and place of consumption is likely to vary from customer to customer, these results show that geographic distance, in and of itself, is an important standalone consideration for these shoppers.
- Image – Like the online customers a group of motivations related to product image were identified among offline farmers’ market customer. However, unlike the online consumers this component group is somewhat confused by the inclusion of the ‘ease of preparation’, which may have been included in this group due to a relatively uniform negative assessment given to these motivations by these consumers. That is this cluster represents negative sentiment or dis-motivation on the part of these customers, with ‘ease of preparation’ being included alongside issues such as brand, as characteristics which are not important to these shoppers.
- Cost Minimisation – This component is also duplicated in both sets of results, however it accounts for less variance among offline farmers’ market shoppers than it does for online shoppers. Interestingly in addition to the issues of ‘low price’ and ‘convenience’ farmers’ market customers also include concern as to whether the product is ‘in season’. While the fact that a product is ‘in season’ may immediately appear to have an association with cost minimisation, products which are in season are sometimes heavily discounted at farmers’ markets, due to a glut of supply.

These different clusters of motivational concern identified for the principle component analysis of the separate online and offline farmer’s market data sets, are considered in the following chapter to see how they accord with the different ‘worlds of justification’ as outlined by Boltanski and Thévenot (2006 [1991]). This is useful, as it enables a discussion of the extent to which the application of e-commerce to AFS is changing the conventions of quality employed.

## **Demographic data**

In addition to information about the motivations of online and offline AFS consumers, this study also gathered a range of demographic data which is useful for comparing online and



offline consumers. This information is presented below, along with data for the general population within the surrounding metro areas of each study site. Results from a Pearson's chi square test for association are also included for the purposes of determining which demographic variables show significant difference between online and offline consumers at the .05 level.

From Table 32 below we see that many demographic similarities were observed between online and offline consumers within the Vancouver study site. The only demographic variable that showed significant difference at the .05 level was household type, with those living in single person households being more likely to shop at farmers' markets, while single parents living with children, and those living in households with multiple adults plus children, being more likely to shop for food via online AFS.

In relation to differences between both online and offline AFS and the general population, one of the most interesting is the higher proportion of female shoppers, with online shoppers especially likely to be female relative to the general population. Also, both online and offline consumers were more likely to live in multi adult households with no children compared with the wider Vancouver population, while also being less likely to live in single adult households with children.

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Table 32: Comparison of demographic variables between online and offline shoppers, and the general population of Vancouver city, in Canada

	Online	Offline	p <sup>1</sup>	Vancouver City <sup>2</sup> n=578k
<b>Sex n=177</b>			0.346	
Male	18.8%	22.4%	0.346	30.0% <sup>3</sup>
Female	81.2%	77.6%	0.346	70.0% <sup>3</sup>
<b>Age n=175</b>			0.951	
<20 Years	1.0%	1.3%	0.681	17.9%
21- 35 Years	36.4%	31.6%	0.309	25.6%
36 - 50 Years	38.4%	38.2%	0.551	25.5%
51-65 Years	17.2%	21.1%	0.323	17.9%
>66 Years	7.1%	7.9%	0.529	13.1%
<b>Income n=174</b>			0.302	
< \$20,000	3.1%	7.9%	0.14	20.2%
\$20,000 - \$39,999	11.2%	17.1%	0.185	22.0%
\$40,000 - \$59,999	22.4%	21.1%	0.487	16.7%
\$60,000 - 79,999	19.4%	17.1%	0.428	16.0%
\$80,000 - \$99,999	15.3%	6.6%	0.058	5.1%
> \$100,000	28.6%	30.3%	0.469	19.9%
<b>Household type n=176</b>			0.019	
Single adult	19.0%	34.2%	0.017	38.6%
Multiple adults, no children	37.0%	40.8%	0.361	23.3%
Single adult plus children	8.0%	1.3%	0.044	16.2%
Multiple adults plus children	36.0%	23.7%	0.055	20.0%
<b>Education n=176</b>			0.794	
<High school	0.0%	1.3%	0.432	16.7%
High school	6.0%	6.6%	0.557	23.6%
Certificate/diploma	13.0%	14.5%	0.473	27.1%
Bachelors degree	43.0%	38.2%	0.312	32.5%
Postgraduate degree	38.0%	39.5%	0.482	n/a

1: Statistical significance calculated using chi square

2: Statistics Canada 2011

3: Sex of principle grocery shopper: Market research and intelligence 2009 Zapeda 2009

The demographic differences between online and offline consumers in Melbourne can be seen in Figure 33. From this data we can see that online consumers tend to be younger than offline farmers' market consumers, with the majority of online consumers being aged between 21 and 35 years of age, while offline farmers' market customers were significantly over represented in the 51 to 65 years of age bracket, including against the general population. In addition to age, a significantly larger proportion of offline farmers' market customers had incomes in the \$80,000 to \$99,000 a year bracket. Like the Canadian respondents, offline farmers' market respondents were also significantly more likely to live in single person homes than were online AFS consumers. Finally, online consumers in Melbourne tended to be more highly educated than offline farmers' market customers, especially in terms of whether or not they had gained a postgraduate qualification. This is particularly salient, as farmers' market customers report significantly higher levels of postgraduate study than is the case for the general population in Melbourne. As was the case with the Canadian study site, both groups of respondents in Australia comprised more females than was the case for the general population of Melbourne grocery shoppers.

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Table 33: Comparison of demographic variables for online and offline shoppers, and the general population of Melbourne City, in Australia.

	Online	Offline	p <sup>1</sup>	Melbourne Inner <sup>2</sup> n=271k
<b>Sex n=188</b>			0.067	
Male	12.3%	21.6%	0.067	29.4% <sup>3</sup>
Female	87.7%	78.4%	0.067	70.6% <sup>3</sup>
<b>Age n=189</b>			<.000	
<20 Years	0.0%	0.0%	n/a	14.00%
21- 35 Years	57.4%	24.3%	<.000	41.00%
36 - 50 Years	40.0%	41.9%	0.457	21.50%
51-65 Years	1.7%	31.1%	<.000	13.80%
>66 Years	0.9%	2.7%	0.339	9.80%
<b>Income n=186</b>			0.157	
< \$20,000	3.5%	4.1%	0.576	14.40%
\$20,000 - \$39,999	15.0%	6.8%	0.07	17.20%
\$40,000 - \$59,999	11.5%	15.1%	0.311	18.10%
\$60,000 - 79,999	17.7%	19.2%	0.472	12.40%
\$80,000 - \$99,999	15.9%	28.8%	0.029	7.40%
> \$100,000	36.3%	26.0%	0.096	30.70%
<b>Household type n=189</b>			0.058	
Single adult	16.5%	29.7%	0.025	33.60%
Multiple adults, no children	46.1%	32.4%	0.043	40.20%
Single adult plus children	2.6%	6.8%	0.156	3.20%
Multiple adults plus children	34.8%	31.1%	0.357	23.00%
<b>Education n=189</b>			0.008	
<High school	0.0%	0.0%	n/a	n/a
High school	4.3%	16.2%	0.06	n/a
Certificate/diploma	8.7%	16.2%	0.091	15.40%
Bachelors degree	33.0%	29.7%	0.377	26.40%
Postgraduate degree	53.9%	37.8%	0.022	10.30%

1: Statistical significance calculated using chi-square

2: Australian Bureau of Statistics 2013

3: Sex of principle grocery shopper Oztam 2011

Combined demographic data for both online and offline consumers across both study sites is shown on the following page as Figure 34. At this level, it is evident that there is a statistically significant difference in the age of consumers using the different mediums. Specifically, online consumers were more likely to report their age as being between 21 and 35 years, while offline farmers' market customers were more likely to state their age as between 51 and 65 years. Other differences at the .05 level of significance include the fact farmers' market respondents were more likely to report living in single person households, as well as reporting that high school was their more advanced level of educational attainment.

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Table 34: Comparison of demographic variables for online and offline shoppers for both Canada and Australia

	Online	Offline	p <sup>1</sup>
<b>Sex n=365</b>			.069
Male	15.3%	22.0%	.069
Female	84.7%	78.0%	.069
<b>Age n=364</b>			<.000
<20 Years	0.5%	0.7%	.655
21- 35 Years	47.7%	28.0%	<.000
36 - 50 Years	39.3%	40.0%	.486
51-65 Years	8.9%	26.0%	<.000
>66 Years	3.7%	5.3%	.316
<b>Income n=360</b>			.787
< \$20,000	3.3%	6.0%	.165
\$20,000 - \$39,999	13.3%	12.1%	.434
\$40,000 - \$59,999	16.6%	18.1%	.404
\$60,000 - 79,999	18.5%	18.1%	.522
\$80,000 - \$99,999	15.6%	17.4%	.376
> \$100,000	32.7%	28.2%	.213
<b>Household type n=365</b>			.016
Single adult	17.7%	32.0%	.010
Multiple adults, no children	41.9%	36.7%	.187
Single adult plus children	5.1%	4.0%	.409
Multiple adults plus children	35.3%	27.3%	.066
<b>Education n=365</b>			.062
<High school	.0%	.7%	.411
High school	5.1%	11.3%	.024
Certificate/diploma	10.7%	15.3%	.125
Bachelors degree	37.7%	34.0%	.272
Postgraduate degree	46.5%	38.7%	.083

1.Statistical significance calculated using chi-square

## **Logistical regression analysis**

The chi square analysis used on both the customer motivation and demographic data above is useful in so far as it allows for the identification of statistically significant differences in the way the online and offline consumers surveyed for this study answered specific questions. However, this analysis is not as useful for predicting what characteristics a hypothetical online or offline AFS customer might exhibit across the full range of motivational and demographic factors investigated. That is, because the chi square analysis only incorporates one independent variable at a time, it does not identify confounding issues, or unseen linkages in the way respondents answer the questions. For example, it does not tell us whether differences in income are primarily related to differences in age rather than being independently associated with shopping online. Therefore, in order to develop a more predictive model of the characteristics online AFS consumers are likely to exhibit relative to offline AFS consumers, it is necessary to employ a logistical regression analysis which is capable of managing confounding issues between independent variables and which can isolate those variables which are most capable of predicting if someone is likely to be either an online or offline AFS consumer. A logistical regression analysis is suitable for this purpose given the dichotomous nature of the dependent variables – namely being either an online or offline AFS consumer (Newson 2013).

As such, logistic regression is useful for testing the theory developed by this study that online e-commerce is likely to make AFS more attractive to consumers with limited socio-economic resources and who are more likely to be motivated by issues associated with price and convenience when shopping for food. By loading demographic variables such as income and level of educational attainment, along with the extent to which the different consumers consider the shopping motivation variables ‘low price’ and ‘convenience’ to be important, into the model, it is possible to test this theory.

The results of the logistic regression analysis are provided in Table 35 on page 186. The outcome of a Hosmer and Lameshow Test is presented to illustrate the goodness of fit of the model, with results showing significance greater than .05 being acceptable. The predictive power of the model is given according to the Nagelkerke R Square measure, which is a pseudo R measure giving variance explained by the model relative to what would be expected if no predictors were used. The variables in the model equation are also presented, including

their significance and Exp(B) measure which represent the likelihood that an online AFS consumer will display that characteristic relative to an offline farmers' market consumer.

The predictor variables used in this regression are categorical variables and the statistical software package SPSS requires that a reference variable must be stipulated for each variable. The reference category must be either the first or last category within the variable and should not be the category of most interest. In this analysis with the exception of 'Age' and 'Education Type', the last category for each predictor variable was chosen as the comparator, and therefore they do not show up independently in the analysis, although they do contribute to the significance calculation for the variable as a whole. In addition, some answer categories had too few responses to function as a viable comparator, as for example the age category; <20 years; in these cases the categories have been collapsed into the next answer category, to create a larger category for example 0 to 35 years of age.

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Table 35: Results of a logistic regression of online AFS food shoppers in both Vancouver, Canada and Melbourne, Australia

Variables in the Equation					
Variable	B	S.E.	Df	Sig.	Exp(B)
Male	-0.48	0.323	1	0.138	0.619
Age			3	0	
0 - 35 Years	0.023	0.641	1	0.971	1.023
36 - 50 Years	-0.543	0.642	1	0.398	0.581
51-65 Years	-1.74	0.688	1	0.011	0.175
Income			3	0.849	
\$40,000 - \$59,999	0.149	0.372	1	0.689	1.16
\$60,000 - 79,999	-0.23	0.4	1	0.565	0.794
> \$100,000	0.005	0.352	1	0.989	1.005
Household			3	0.008	
Multiple adults, no children	-.987	.362	1	0.006	2.829
Single adult plus children	.053	.302	1	0.861	4.493
Multiple adults plus children	.515	.682	1	0.450	2.683
Education			3	0.025	
Certificate/diploma	0.659	0.603	1	0.275	1.932
Bachelors' degree	1.146	0.5	1	0.022	3.145
Postgrad degree	1.386	0.503	1	0.006	3.999
Low price			3	.010	
Somewhat important	.528	.512	1	.303	1.696
Important	1.459	.565	1	.010	4.303
Very important	1.248	.709	1	.078	3.482
Convenience			3	.003	
Somewhat important	.485	.536	1	.366	1.624
Important	.833	.526	1	.113	2.299
Very important	1.805	.595	1	.002	6.082
Canada	-0.233	0.261	1	0.371	0.792
Constant	-2.969	0.922	1	0.001	0.051
Model $\chi^2$ =		15.017			
		p>.05			
Pseudo $R^2$ =		0.284			
N =		375			

According to this logistic regression model, three demographic variables and two motivational variables were found to be significant predictors of online AFS shopping. The

three demographic factors most associated with online AFS shopping are age, household type and level of educational attainment. In relation to age, the model shows that online consumers are significantly less likely to be between 55 and 65 years of age, and are in general likely to be younger. This older demographic profile may go some way to explaining the significant difference in household composition between online and offline consumers, with offline consumers being significantly more likely to live in households with multiple adults and no children, as may be expected with older respondents whose children have reached adulthood and left home. These results also suggest that online consumers are more likely to live in a household with children than are offline farmers' market customers. The variable for educational attainment shows that online consumers have higher levels of educational attainment than do offline farmers' market customers, with a significantly larger proportion of online consumers either holding a bachelors' degree or postgraduate qualifications.

The hypothesis at the centre of this research suggests that e-commerce mediated AFS is likely to attract more resource constrained consumers who are likely to be more price and convenience focused. While it does not appear that online AFS shoppers experience significant resource constraints compared with offline farmers' market shoppers, the results of the logistic regression model shown in Table 32 do suggest that online AFS shoppers are approximately 3.5 times more likely to state that low prices are a significant motivational factor when shopping for food. The results in relation to convenience are more pronounced, with AFS shoppers being more than six times more likely to view convenience to be a critical decision making factor when it comes to purchasing food.

The results detailed within this chapter have included a range of qualitative case study data derived from in-field investigations by the researcher. They have also included a range of quantitative data arising from a survey of 375 AFS consumers, including data on not only on how individuals use online and offline AFS in different ways, but also their different motivations and demographic characteristics. The relevance of these results for the purposes of answering the research question is discussed in the following chapter.

## Chapter 7 Discussion

This study has shown that while the need to find more sustainable food system models is increasingly recognised (FAO 2012; Naylor 2008), the potential of ‘alternative’ food systems (AFS), as they are most commonly operationalized and understood, is currently limited by low levels of access equity (Goodman 2009; Tropp & Barham 2008). Tangible barriers to AFS access include, but are not limited to, high prices and low levels of convenience; which pose significant hurdles for people on low incomes, and/or exhibiting other indicators of socio-economic disadvantage (Goodman 2009; Tropp & Barham 2008). Furthermore, where attempts have been made to make AFS more accessible, such as through partnerships with large supermarket chains, the outcomes have been criticized a resulting in a form of ‘conventionalisation’ which diminishes those quality conventions with which AFS have been associated (Buck, Gets & Guthman 1997; Guthman 2004).

However, a number of popular and academic authors suggest that the increasing application of internet enabled e-commerce is improving the competitive position of firms operating within niche markets, like those which characterise AFS, such that they are attracting an increased share of consumer demand (Anderson 2006; Brynjolfsson, Hu & Simester 2011; Choi & Bell 2011). This study explores these claims as they relate to AFS by asking the question: is the use of internet enabled e-commerce within AFS generating increased demand from resource constrained consumers, while maintaining the same quality conventions associated with offline AFS such as farmers’ markets?

Because this research question seeks to assess the effect of e-commerce on AFS, relative to less e-commerce dependent AFS, some measure of e-commerce adoption is required. As such, the case study data related to e-commerce adoption presented in chapter six, is here considered in relation to a staged model of e-commerce adoption. This provides a basis for comparing e-commerce adoption across the different study sites (Mendo & Facanha 2005). With a clear understanding of the relative level of e-commerce adoption between cases under investigation, it is then possible to discuss the two principle components of the research questions. That is, firstly, do AFS with higher levels of e-commerce adoption attract a significantly larger share of customers on low incomes, or who exhibit other indicators of socio-economic disadvantage, and if so why? Secondly, do participants in online AFS recognise and deploy different quality conventions compared with offline AFS participants,

such that online AFS production systems could be reasonably understood as occupying different ‘worlds of production’ in a manner consistent with the conventionalisation thesis? The answer to these questions and their relationship to the theoretical model developed within this study are discussed in this chapter.

### **Differing stages of e-commerce adoption**

The different case studies examined in this study, were chosen in large part because they could be contrasted in terms of the application of e-commerce. For example, the fact that three of the case study firms only allow customers to order products via their website creates an obvious point of difference when compared with farmers’ markets, which require customers to engage in face-to-face transactions. However, this difference alone does not mean that farmers’ markets, understood as critical supply chain aggregation points, similar in function to the online firms considered, do not use e-commerce to some degree. To better understand the relative application of e-commerce and how this may affect both the attractiveness of each supply chain to resource constrained consumers, and adherence to quality conventions typically associated with AFS, the staged model of e-commerce adoption is useful.

According to the staged model of e-commerce adoption, the process by which SMEs adopt e-commerce is both ordered and sequential (Chaston et al. 2001; Daniel, Wilson & Myers 2002; Kiong 2004; United Kingdom Department of Trade and Industry 2002). The early stages of firm level e-commerce adoption are generally understood to include the gaining of access to the internet and the use of rudimentary applications such as email, as well as possibly setting up a simple website. The next phase of development occurs when an organisation starts to provide more detailed and valuable information online to its customers. This second phase may also involve some level of online interactivity, enabling customers to ask questions and receive answers online. In the subsequent stage, businesses begin to deploy e-commerce in the sense of allowing customers to both place orders and complete the payment transaction online. The fourth and most advanced stage of development within the stages of e-commerce adoption model put forward by Kiong (Kiong 2004) occurs when a company fully integrates its website into its back office processes, such as materials resource planning systems and customer relationship management software. This four stage model of e-commerce adoption is represented in Figure 39.

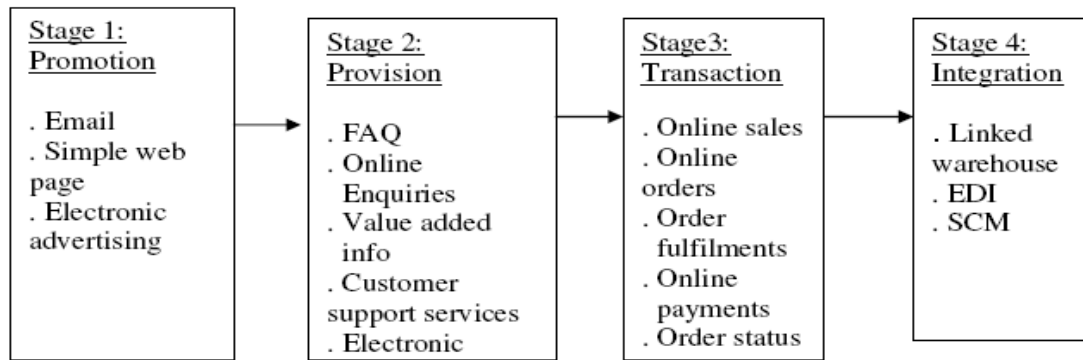


Figure 36: The four stage model of e-commerce adoption

(Kiong 2004)

Within the multistage adoption model proposed by the United Kingdom Department of Trade and Industry (2002) an additional stage of development is recognised. This fifth stage is referred to as the ‘transformed organisation’ phase. This peak state of e-commerce adoption is achieved when a company becomes so fully integrated with both their customers and suppliers, via information technology, that a new network dependent business model emerges. This five stage model of e-commerce adoption model is presented below as Figure 40.

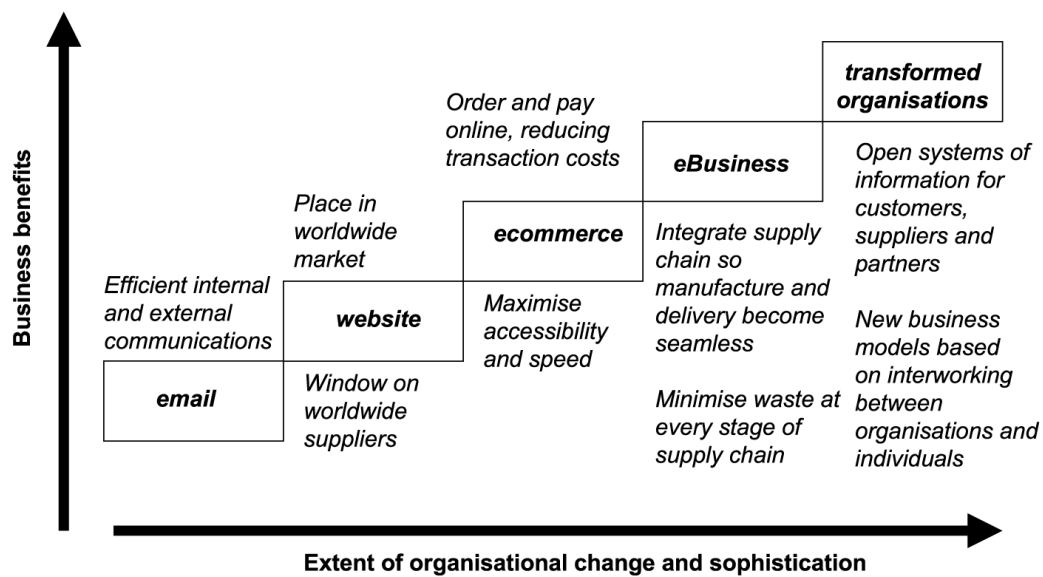


Figure 37: Five stage model of e-commerce adoption

(United Kingdom Department of Trade and Industry 2002)

Regardless of the number of levels observed, two fundamental elements unite staged models of e-commerce adoption. The first is the supposition that different stages of e-commerce

adoption are identifiable. The second is that SME firms progress sequentially through these stages, from lower levels of adoption to higher ones (Kiong 2004; Mendo & Facanha 2005).

However, while this framework for understanding e-commerce adoption has proved popular, it has also been criticised (Mendo & Facanha 2005). The primary criticism levelled at the staged model of e-commerce adoption being that it relies on overly simplistic assumptions about organisational change and innovation. Specifically, Mendo and Facanha (2005, p. 126) state that 'simplified linear approaches to analyse innovation fail to illustrate the complex processes that may take place at macro and micro-economic levels within individual small firms.' Rather than progressing in a linear fashion from less advanced to more advanced e-commerce adoption, Mendo and Facanha provide evidence to suggest that many SMEs actually devolve their level of e-commerce integration under certain circumstances.

Despite this criticism, a linear staged model of e-commerce adoption is used within this study to assess the differing levels of adoption between the different case study firms examined. This use is justified within this study because the model is used primarily to illustrate the relative level of adoption among the case study firms. The applicability of the model for this purpose is recognised by Mendo and Facanha (2005, p. 127) when in spite of their earlier criticism, they state: 'the model has proved to be a useful tool for a SME that wishes to classify itself for comparison purposes with its major competitors involved in e-commerce within its own industry or sector.' Thus, the staged model of e-commerce adoption is used within this study to compare the level of e-commerce adoption between the case study firms, as well as the co-located farmers' markets. For the purposes of this comparison all farmers' markets investigated in a given study site are considered part of the one entity, due to the fact all co-located farmers' markets investigated were operated by the one local farmers' market association. In reality, farmers' markets are made up of many individual businesses which are likely to have different individual levels of e-commerce adoption. The fact that these firms are considered in aggregate as city specific farmers' market entities is a limitation of this study, which represents an opportunity for further research.

Despite this limitation, the staged model of e-commerce adoption used within this study does provide interesting results. This model is based on an amalgamation of the model developed by Kiong (2004) which is shown in Figure 39 and the model developed by the United Kingdom Department of Trade and Industry (UKDTI) (2002) and shown in Figure 40. This amalgamated model is useful because it incorporates both the emphasis on specific e-

commerce features employed at the different stages, displayed in the Kiong model, as well as the additional fifth stage of enterprise transformation included in the UKDTI model.

Table 36: A comparison of e-commerce adoption by case study firms and farmers' markets.

Key	
	In use
	Not in use

Stage	Features	FFH	Fresh BC	Van FM	Gaia's Table	Melb FM
<b>Stage 1 Promotion</b>	Email					
	Simple website					
	Electronic advertising					
<b>Stage 2 Provision</b>	FAQ					
	Online enquiries					
	Value added info					
	Customer support					
	Social media integration					
<b>Stage 3 Transaction</b>	Online sales					
	Online orders					
	Online payment					
	Order status					
<b>Stage 4 Integration</b>	Linked warehouse					
	Electronic data interchange					
	Material resource planning					
	Supply chain management					
<b>Stage 5 Transformation</b>	Open links to customers					
	Open links to suppliers					
	New business model based on full integration with customers and suppliers					

It is evident from Table 36 that the three online retailers have higher levels of e-commerce adoption than is the case with the farmers' markets investigated. Interestingly however, the divide, except in the case of FFH, is only a matter of one level; that being directly associated with online transactions. Both the online case study firms and the two farmers' market groups exhibit the first two stages of e-commerce adoption, which are predominantly related to non-transactional information transfer.

Of all the case study firms, only FFH exhibited 'integrated' e-commerce adoption, understood as involving electronic coordination of internal logistical tasks. The general importance of e-commerce to FFH as a company is encapsulated in the following statement by an employee in their marketing department: 'If it wasn't for the internet we wouldn't exist. We are as much an internet company as *Amazon* or *eBay*' (FFH Online Marketing Employee). This recognition of the central role e-commerce plays in the FFH value proposition is also evidenced by their ongoing investment in their website, including a significant restructure of the site, intended to facilitate operation of their materials resource planning (MRP) system.

The use of a MRP system by FFH amounts to the technological zenith of the five case studies investigated. In order for this system to operate efficiently, FFH also needs to be able to achieve real time, or close to real time, inventory control so that their customers do not order products which are in fact out of stock. This level of inventory control is unique among the five case studies, although the technology used to achieve it, primarily being bar code scanners, is not particularly sophisticated. Nonetheless, the deployment of this technology, coupled with the MRP algorithm and website updates, means that FFH is able to offer their customers the convenience of much shorter lead times between when an order needs to be placed and when a product will actually be delivered. In practice this means that while Fresh BC and Gaia's Table both require that their customers order products multiple days in advance of delivery, FFH customers can order anytime up to midnight on the day before delivery. This gives FFH customers a greater window of time in which to shop, and also reduces the need for the customer to forecast what they will need several days in the future, thus reducing costs associated with uncertainty and error in this regard.

The second most technologically advanced firm considered here is Gaia's Table. The primary difference between Gaia's Table and the third online food vendor, Fresh BC, is that Gaia's Table offers the convenience of online credit and debit card payments as well as order confirmation and tracking. Fresh BC on the other hand, requires that their customers make



payments into the organisations bank account separate from their website, either by check or bank transfer.

When it comes to contrasting e-commerce adoption between the three online case study firms and the two farmers' market organisations the difference is significant. However, because this study did not conduct case study research into individual vendors selling through farmers' markets, it is not possible to speak conclusively about the level of technological adoption taking place within firms using farmers' markets. Nonetheless, viewed in aggregate, the farmers' markets considered were found to use e-commerce to some degree. For example, it was observed that while the online case study firms use social media as a tool for two-way communication with their customers, and occasionally three-way discussion between consumers, the firm and their suppliers, these strategies were also employed by the farmers' market organisations considered. As such, social media platforms such as Facebook and Twitter do not represent a competitive advantage for the online firms examined, relative to farmers' markets.

### **Do online AFS offer improved access equity?**

The question of whether or not online AFS offer greater access for resource constrained consumers can also be restated as; are resource constrained consumers more able and likely to demand products from online AFS relative to offline AFS? Within this study an expansion of demand is understood to mean both a broadening of demand through the attraction of more consumers with indicators of socio-demographic disadvantage as well as a deepening of demand via increased consumption by existing customers, some of whom may already exhibit financial, educational and temporal resources constraints. That is, proving the hypothesis that online AFS are likely to be relatively more attractive to resource constrained individuals than offline AFS, includes both determining if online AFS attract a significantly larger share of such customers, but also whether or not they buy more produce when they do shop.

For the purposes of this study the term resource constrained consumers refers primarily to consumers who exhibit demographic indicators of socio-economic disadvantage, such as having a low income, living in a single parent household, or having low levels of educational attainment; while also remaining cognisant of consumers who place a significant premium on issues associated with price and convenience for other reasons not captured by these

demographic variables. When a consumer expresses a strong motivation to buy food which is low cost or convenient, it does not necessarily follow that they will have a low income or be time poor due to an issue such as living in a single parent household. However, the concern for price and/or convenience is suggestive of some level of resource constraint, given that previous research has suggested consumers on low incomes are more likely to be focused on issues of price (Holland & Ewalt 2006; Roukhkian & Bardouniotis 2011) and also that consumers living in areas of socioeconomic disadvantage are likely to face more time and location related constraints on their ability to attend offline AFS such as farmers' markets (Anderson 2007; Tropp & Barham 2008).

In order for online AFS to be more attractive to consumers with low incomes and/or who are more focused on the attainment of low cost food, it would seem that the price of the food sold by the online firms would actually need to be lower, as consumers on low incomes tend to be more price sensitive (Barnard 1999; Holland & Ewalt 2006). This study has suggested that lower prices may eventuate due to two primary reasons. Firstly, business efficiency gains are likely due to the fact that online AFS 'can automate business processes that lower the costs of access to local foods' (Matsins, Sullins & Cook 2013). Secondly, the long tail theory of consumer demand suggests that consumers are increasingly demanding products from niche markets where unique, value added quality attributes more closely match their requirements, and that as this demand grows, competition is likely to increase, including on the basis of price as the products move through the product lifecycle (Ancarani & Shankar 2004; Choi & Bell 2011).

However, the results of the price survey conducted as part of this study do not suggest that online AFS have a price advantage. Indeed, across the 41 products surveyed, offline farmers' markets offered lower prices in 54% of observations; against only 39% for the online case study firms, while in 7% of observations prices were equal. Admittedly, the survey that produced this relative price information was very limited in scale and more accurate data would likely be obtained by undertaking a more comprehensive survey. Despite that caveat, the results do suggest that, at least on the basis of product prices alone, online AFS are slightly more expensive across a basket of goods than offline AFS such as farmers' market.

However, complicating this observation is the fact that shoppers using online AFS are able to complete the shopping task in a significantly shorter time period than are offline farmers' market customers. Indeed, the value of that time saving, based on data collected in this study

and time valuation methods highlighted by Lake and Ferreira (2002), is approximately 10% of the average total weekly spend per customer. Thus, while the sticker price of goods sold online tends to be higher on average, when the value of time saved, or convenience, is factored in, they may actually be less expensive.

As to whether online shoppers actually make such a calculation, and thereby assess the financial value of convenience against marginally higher product prices, is uncertain. According to research by Kotzab and Teller (2005) consumers do not calculate the value of convenience in terms of a dollar figure. However, the survey of consumer food shopping motivations and considerations conducted in this research does suggest that online consumers are significantly more likely to state that low prices and high levels of convenience are important to them. This suggests that not only do these consumers value convenience, but that they also look past the marginally higher sticker prices of the online AFS and calculate, consciously or unconsciously, that the increased convenience results in lower costs purchases when all costs are considered.

As to who is most likely to benefit from increased convenience, and therefore calculate that online AFS are a lower costs proposition, there are two competing factors at play. On the one hand it is the wealthiest individuals who receive the greatest benefit from increased convenience, because the opportunity cost of their time is of greater financial value, meaning wealthy people will have a larger incentive to overlook the slightly more expensive sticker price of the food sold through online AFS. Conversely, because there tend to be fewer farmers' markets in geographic locations associated with socio-economic disadvantage, as well as reduced public transport options on Saturdays, when most markets are held, the convenience offered by online AFS is likely to be especially significant for consumers living in those areas (Tropp & Barham 2008).

The survey results outlined in chapter six do indeed evidence some demographic differences between online AFS shoppers and offline AFS shoppers. Survey respondents were asked to give information about a range of demographic variables including: sex, age, income, household type and educational attainment. Of these variables, income, household type and educational attainment give the most direct insight into the level of disadvantage or resource constraint affecting a given respondent. If respondents reported lower levels of household income and educational attainment, or reported that they lived in a single parent household, this was read as an indication of resource constraint.

A Pearson's chi square test was applied to the survey results in order to determine if there were in fact differences between the online and offline consumers, aggregated across the two study sites, at the .05 level of significance. According to this analysis, there is a significant difference in the age and household type of online and offline AFS consumers. Specifically, the age of online shoppers surveyed was significantly skewed toward shoppers between 21 and 35 years of age, while farmers' market shoppers tended to have a more even distribution of ages and be generally older than the online shoppers. Given that previous research has found that age is not associated with shopping at farmers' markets (Wolf, Spittler & Ahern 2005; Zapeda 2009), these results suggest that online shoppers are more likely to be younger, relative to both farmer market customers and the general population. As such, e-commerce mediated AFS appear to have reduced diversity in terms of the age of those participating. However, as time passes this conceivable may change, as older consumers continue to increase their level of internet adoption and as 'digital natives', who have had access to the internet since childhood, increasingly populate the demographic distribution.

The one other demographic variable which was found to be significant at the .05 level within the Pearson's chi square test was household type. Within this study, household type is a measure of co-habitation, with respondents asked to indicate whether or not they lived with other adults and/or with children. The results showed that farmers' markets customers more frequently lived alone in single person households. This is surprising as other studies have found shopping at farmers' markets to be correlated with both being married and living in a multi-adult households (Wolf, Spittler & Ahern 2005; Zapeda 2009). Previous studies have not found a relationship between having children and shopping at farmers' markets, however, this study does find that online consumers were significantly more likely to cohabit with children than were the farmers' market customers surveyed. One likely explanation for this is that consumers who cohabit with children face time pressure associated with looking after them and therefore the convenience offered by online food shopping is relatively more attractive to them than it is to people living in single person households.

However, the results did not suggest that the demographic variables gender, income and level of educational attainment correlated with the use of online AFS, at the .05 level of significance. This suggests that online AFS have not as yet, made significant progress in terms of generating demand from consumers with limited financial resources or levels of educational attainment.

However, the chi square test for association does not account for possible confounding issues between different variables and is only useful in so far as it allows insight into the differences in demographic characteristics and shopping motivations of online AFS consumers compared with farmers' market consumers. In order to determine what characteristics are most likely to be associated with online AFS consumers, that is, to be able to *predict* what characteristics online shoppers are likely to have, including whether these characteristics include indicators of socio-economic disadvantage, a binary logistic regression analysis was also applied.

The results of this analysis as applied to the combined Australian and Canadian data produced a logistic regression model, shown in Table 35, which is capable of explaining 28% of the variation in responses from online and offline consumers. According to this model, online consumers are 3.5 times more likely than offline farmers' market customers to state that low prices are a 'very important' motivating factor in their food purchasing decisions. However, the model does not suggest that online consumers will exhibit more pronounced demographic indicators of socio-economic disadvantage. Indeed, online consumers are actually associated with at least one indicator of socio-economic advantage, that being that they are significantly more likely to have the highest level of educational attainment, than are offline consumers. This logistic regression model also found that online customers are significantly more likely to live in a household with children and to be younger than offline farmers' market customers.

Thus the results of the logistic regression model support the results of the chi square analysis in that they do not indicate that people with indicators of socio-demographic indicators of disadvantage are more likely to shop for food via online AFS than they are from offline AFS such as farmers' markets. This is despite the fact the online consumers are more likely to be focused on low prices.

However, despite the fact internet enabled e-commerce does not seem to be associated with increased demand for AFS from resource constrained consumers, it is nonetheless associated with an increase in per capita demand, relative to farmers' markets. This can be seen from results shown in Table 16, which suggest that, particularly when average weekly expenditure is adjusted to account for variations in shopping frequency, online shoppers spend significantly more than do offline farmers' market customers. Given that the prices of products sold through online AFS are only marginally more expensive than those sold through offline farmers' markets, as evidenced by the results of the price survey shown in

Figures 37 and 38, this would suggest that online customers generate a larger level of product demand per customer than do offline farmer's market consumers. Furthermore, the results shown in Table 21 demonstrate that a majority of online AFS customers surveyed either continue to attend farmers' markets, or have never previously attended them. This suggests that monies being spent through e-commerce mediated AFS are not, for the most part, being substituted away from offline farmers' markets. As such, expenditure with online AFS may, subject to changes in expenditure through other AFS mediums such as consumer food co-operatives which have not been considered in this study, represent a significant increase in demand for AFS in total. To increase the confidence in this result however, there is an opportunity for future research into online AFS to expand the breadth of the enquiry beyond farmers' markets to include other mediums such as consumer supported agriculture projects and consumer food co-operatives.

### **Differing conventions**

From the preceding section we know that online AFS are not currently expanding demand in a manner which is increasing the proportion of resource constrained consumers who use them relative to offline AFS, represented in this study by farmers' markets. However, there is evidence to suggest that those resource constrained individuals who do use online AFS may be demanding relatively more produce via larger average weekly shopping orders. In order to determine whether this development has been achieved at the expense of those quality conventions associated with offline AFS, this study employs both conventions theory (Boltanski & Thévenot 2006 [1991]) and worlds of production theory (Storper & Salais 1997) as a means to assess the nature and extent of any 'conventionalisation' (Buck, Gets & Guthman 1997) process.

As previously outlined in chapter two of this study, conventions theory describes the way economic and social actors seek to navigate uncertainty via ongoing conjoint negotiations with other actors about the nature of value, such that agreements may be formed; and potentially become a durable means by which to lower transactions costs between those actors. Due to the focus on how economic actors contribute to the collective wellbeing via mutable, but often tacit, agreements about the nature of value or worth, conventions theory is useful for determining if online AFS have moved away from those conventions associated by offline AFS, in a manner which sees them adopt significant quality conventions from the

‘conventional’ food sector. However, in order to assess the differences and similarities between online AFS and offline AFS at the level of the food system or supply/value chain, it is also useful to employ the worlds of production theory, which is more concerned with issues of inter-firm coordination and efficiency, as it relates to the production of goods and services (Storper & Salais 1997).

According to Storper and Salais, different worlds of production are rendered coherent by their appeal to specific bundles of conventions. However, while the worlds of production theory they outline draws from the earlier work on conventions theory by Boltanski and Thévenot (2006 [1991]), there is a lack of theoretical work explicitly dealing with how the two theories intersect and the extent to which they overlap (Zibell 2010). This study addresses this theoretical gap by advancing a schema, as shown in Figure 7 (p. 70), which explicitly overlays selected worlds of justification as advanced by Boltanski and Thévenot with selected worlds of production as proposed by Storper and Salais. This theoretical model navigates a path between these two related theories via the recognition that the worlds of production theory is more explicitly focused on ‘efficient economic coherence for production systems’ (Storper & Salais 1997, p. 20) and is therefore more suited to the consideration of coordination mechanisms amongst producers; while conventions theory is broader in its area of concern and better suited for understanding the diverse quality assessments of consumers.

In addition, the theoretical model advanced in this study recognises that the various worlds of justification and worlds of production depend upon different standards of communication, such that quality conventions can be negotiated and understood between producer and consumer. The supposition being that the interpersonal world of production enables richer levels of interpersonal communication and therefore more varied interpretations of quality to be conveyed than do the market or industrial worlds, which are predicated on the need for producers to engage with large numbers of consumers. This combined model is put forward as a theoretical advance; however it does not fully integrate the two theories, instead only focusing on those conventions and worlds of production which are most relevant to AFS. As such, there further theoretical development work is required to integrate these related theories more fully.

Despite this limitation, the amalgamated theoretical model advanced within this study does provide a useful and novel means of examining similarity and difference in both consumer and producer behaviour. Conventions theory, as advanced by Boltanski and Thévenot (2006

[1991]) via their six worlds of justification, explicitly extends beyond issues related to material production and consumption. Instead of a singular focus on markets as the dominant means of social and economic coordination, conventions theorists hold that the 'market is only an element among a set of possible forms of coordination' (Salais 2001, p. 2). As an example of this desire to broaden the locus of inquiry away from price based economic transactions, it is interesting to note that when 'conventions economics theor[ists] postulate[.] that the means to evaluate the value of a 'good' are pluralistic [...] [t]he word 'good' [is] deliberately chosen to underline the pluralism, since it may mean either a material object or anything desirable for moral or political reasons' (Zibell 2010, p. 63). Therefore, the six worlds of justification, outlined by Boltanski and Thévenot and summarised in Table 1 (p. 46), provide a broader pallet for interpreting the justifications people employ to guide their actions and interactions with others, than does the worlds of production theory, which is more explicitly focused on the realm of material production.

Therefore, within this study conventions theory is used to compare the concerns that motivate participants in online and offline AFS at the broadest level. This is particularly useful as it relates to interpreting the motivations and concerns of consumers, who are less constrained by the need to focus on issues directly related to production systems, than are firm level actors.

As such, conventions theory is used to assess the level of similarity or discord between the conventions of quality employed by online AFS consumers and offline farmers' market consumers, as evidenced by data collected about their food shopping motivations and considerations and analysed via principle component analysis, the results of which are shown in Tables 30 and 31.

### **Worlds of Justification employed by online AFS customers**

For online AFS customers a total of four clusters, or principle components, were extracted from the 17 potential motivational concerns. For each of the four clusters identified, a name has been ascribed which represents the likely underlying motivations and which is useful for the purposes of relating the cluster to the different worlds of justification outlined by convention theorists (Biggart & Beamish 2003; Boltanski & Thévenot 2006 [1991]; Murdoch, Marsden & Banks 2000; Ponte 2009; Rosin & Campbell 2009). The four clusters for online AFS consumers and their relationship to conventions theory are discussed below.



- Provenance

For online AFS consumers, this cluster is strongly associated with issue of geographic proximity and ‘place’, with place being understood as ‘a where dimension formed by people’s relationship with physical settings’ (Najafi & Bin Mohd Shariff 2011, p. 187). As such this factor can be related to the domestic world of justification, which, according to Murdoch, Marsden and Banks (2000, p. 114) ‘involve[s] goods which can draw upon attachments to place.’ Furthermore, according to Rosin and Campbell (2009, p. 42):

*The value and quality of [a] product is [...] reinforced by the consumers knowledge of the production location [...] [;however,] justifications become more difficult to assert with increasing physical distance between production and markets.*

This latter point is interesting in that seasonality is included within this cluster along with motivations more clearly associated with geographic proximity, such as the distance the food item travelled between place of production and place of consumption. This suggests that online AFS consumers obtain a connection to place via the ordering of produce which is ‘in-season’ in their area, even though the actual interface for doing so does not allow a physical connection between producer and consumer, as is the case with farmers’ markets.

Furthermore, online AFS consumers also conflated the issue ‘knowing the grower’ with these other issues associated with geographic provenance. This is significant as it suggests that while these consumers are buying online, they continue to value personal interactions with food producers, in a manner which accords with ideas of worth within the domestic world of justification. That is, for the online consumers surveyed, buying food online does not nullify the domestic world of justification in terms of defining the value of local, in-season produce purchased from personally known, or at least knowable, individuals.

However, the notion of provenance, is not restricted to the ‘where’ of ‘who’ dimensions of origin, but can also encompass its history in a broader sense, including elements of ‘how’ it was produced. So it is that online AFS consumers concern for fair trade practices and animal welfare is also included within this motivational cluster. This broadening of the locus of concern to include persons and living entities other than the consumer as an individual, suggests that they are using notions of quality which accord with the civic/green world of justification. According to Boltanski and Thévenot (2006 [1991], p. 135):

*The distinctive feature of the civic world is that it attaches primordial importance to beings that are not persons. In this world, the ones who accede to higher states of worth are not human persons but rather the collective person that they constitute by meeting together. Insofar as human beings belong to or represent collectives, their worth can be taken into consideration.*

The issues of fair trade practices and animal welfare encapsulate the ideal of civic worth, in that they represent the interests of multiple persons and entities involved through the food production and distribution process. In that sense it is a concern for those collectively involved in producing a product including both animals and humans.

- Product integrity

Product integrity can be related to the industrial world of justification which valorises states such as being ‘functional, reliable, [and] operational’ (Boltanski & Thévenot 2006 [1991], p. 205). For online AFS consumers, product integrity links both interest in the nutrition of a product, as well as concern about whether or not a product is certified organic and safe to consume. Given that at the most basic level the role of food is to impart nutritional sustenance to the consumer, concerns about nutrition can be understood as a concern about whether or not the item is in fact functional, or fit for purpose, at the most basic level.

Similarly, while the organic farming may not immediately seem relevant to the industrial world of quality, it should be remembered that consumers were asked to rank the importance of a product being ‘certified organic’ rather than organic farming methods per say. This is significant as the certification process relates to the codification of organic production processes such that certified organic food becomes a more ‘reliable’ (Boltanski & Thévenot 2006 [1991], p. 205) bearer of product attributes, particularly for online consumers, who are less able to form trust building face-to-face relationships with vendors, which might otherwise serve to assuage concerns about provenance.

Food safety is also something that is not readily associated with the industrial food supply chain in the AFS literature (Scholten 2006). However, the fact that online AFS consumers answers in such a way as to associate food safety with nutrition and organic certification does suggest an underlying concern for product integrity and the product being fit for purpose, which does align with the industrial world of justification.

- Cost minimisation

This cluster can be related to the market world of justification. According to Boltanski and Thévenot (2006 [1991], p. 43), within the market world, coordination ‘relies on two supports: a common identification of market goods, [...] and a common evaluation of these objects in terms of prices’. The cluster referred to as cost minimisation is made up of motivations related to low food prices as well as concerns about the ease with which a food item can be first procured and then prepared for final consumption. The latter two attributes have a direct bearing on the effort required from the consumer and is therefore a marketable attribute of the product, while low prices, relative to the marketable attributes obtained, is the prime designator of quality for consumers in the market world.

- Image

The last cluster of food purchasing motivations identified for online AFS consumers via the principle component analysis has been labelled image. This principle component is comprised of motivational concerns associated with the product brand, the appearance of product itself and the appearance of the package in which it is purchased. Being motivated by product brands is associated with the market world as brands can play a significant role in delineating differences in marketable product qualities, including intangible qualities associated with how the product and brand combine to make the consumer feel, including about themselves and their image (Elliot & Yannopoulou 2007). According to Boltanski and Thévenot (2006 [1991], p. 198):

*The market world is populated with individuals seeking to satisfy desires [...].An object of a market nature is a thing toward which competing desires for possession converge: it is desirable, sal[e]able, marketable.*

Therefore products which enhance one’s image, including via recognisable brands, and aesthetically pleasing packaging, are desirable market goods and have worth in the market world of justification. Interestingly however, the data collected on the level of importance that online consumers place on the individual motivations which make up this principle component suggest that they are generally ‘not important’. As such this principle component may in fact evidence a cluster of issues that these consumers do not find important and indeed may even wish to avoid.

## **Offline farmers' market customers**

The food shopping concerns and motivations of offline farmers' market customers were also subjected to a principle component analysis, such that four underlying clusters of motivation were identified across the 17 questions answered. The four clusters identified are: production factors, proximity, image and cost minimisation. The relationship between these clusters and various worlds of justification outlined by conventions theory are detailed below.

- **Production factors**

Like the online AFS consumers surveyed, the offline farmers' market customers answered the motivation questions in a way which suggested a shared interest in the origin of the products they were buying, including the manner in which they were produced. However, while the first principle component identified for online AFS consumers included a significant interest in the geographic location of production and was therefore termed 'provenance', for online consumers the issues in this cluster of concern pertain primarily to production factors other than geographic location. Motivations within this cluster include: nutrition, in season, knowing the grower, certified organic, 'natural' not certified, fair trade and animal welfare. While many of these issues are grouped differently for online consumers than they are for offline AFS farmers' market customers, this initial cluster of concern identified for offline AFS consumers also seems to relate to the domestic and civic/green worlds of justification.

For example, offline AFS consumers linked the maintenance of personal relationships with the grower of the food with the ability to buy food advertised as 'natural' while not being 'certified'. This links a value judgement associated with the domestic world, which valorises 'trust, [...] based on face-to-face relationships' (Kirwan 2006, p. 304), with one from the green world, which according to Rosin and Campbell (2009, p. 41) values products and practices which 'contribute to the good of the environment'. While for offline farmers' market consumers, organic food remains associated with reduced environmental impacts, it would seem that being able to form a personal face-to-face relationship with a farmer at a farmers' market, who is putting her reputation at stake by making claims about product naturalness in an open public forum, increases the trust in these claims, such that they occupy the same cluster of concerns as certified organic products.

The fact that nutrition is also included in this principle component, along with motivations to buy certified organic produce and produce which is ‘natural’ but not certified, suggests that offline farmers’ market consumers conflate these issues. While the claims about whether or not organic food does in fact offer superior nutrition remains contentious, Rosin and Campbell (2009, p. 42) suggest that improved nutrition is a good which is ‘beneficial for the whole of [...] society potentially curing such social ills as poor dental health, reduced vigour and ill-health in the general population’. As such, nutrition can also be understood as a sign of worth within the civic world of justification.

Other motivations related included in this cluster, or principle component, include a desire to ensure the products they buy have not been the result of animal cruelty and have also involved the fair treatment of all participants in the supply chains. These motivations broaden the area of concern beyond the individual, to include all those persons and animals involved in the production process, and are therefore relevant to the civic/green world of justification.

- Proximity

This principle component of offline farmers’ market consumer motivation is clearly grouped around issues of geographic proximity between place of food production and place of food consumption. While the degree of physical proximity varies significantly in this cluster, being as high as to mean within a 100km radius or as low as simply being produced in the same country, the underlying quality assessment relates to the domestic world which places significant value on ‘place’. As pointed out by Rosin and Campbell (2009), notions of quality which attach to geographic place are more difficult to communicate and have less worth in the domestic word of justification the greater the distant the product has travelled. While the chi square analysis of consumers shopping motivations, the results of which are shown in Table 28 (p. 170), indicate that these consumers do place different levels of importance on different special scales, the results of the principle component analysis show that in aggregate, online consumers do view these scales as being related quality indicators, all of which accord with the domestic world of justification.

- Image

Like online AFS consumers, offline farmers’ market consumers answered the shopping motivations questions in a way that identified a principle component or motivational cluster around the notion of image. As with the online customers, image is regarded as a marketable

product characteristic and is therefore associated with the market world of justification. This is not to say that these consumers viewed these issues positively, but rather that they identified these marketable product qualities as related. The fact that the individual motivations that make up this cluster tended not to be viewed as ‘important’ or ‘highly important’ by these consumer is suggests that like, the online consumers, this cluster may evidence a degree of negative sentiment toward these issues related to the market world of justification.

- Cost minimisation

Those factors grouped together within the factor cost minimisation include: convenience, low price and being ‘in season’. The first two attributes clearly relate to the ability of the consumer to minimise the costs that they personally incur. For example, added convenience reduces the opportunity cost associated with the use of scarce resources such as time and physical effort, while low prices increases the purchasing power of consumers and is highly venerated within the market world of justification (Biggart & Beamish 2003). The third factor relates to the ability to buy in-season produce. For the online consumer this issue was conflated with the domestic world of justification and being able to buy produce that manifests the local environment, while for farmers’ market consumers it appears to be more associated with the market concerns of low price and convenience. One possible reason for this is that the cheapest products sold at farmers’ markets are likely to be those products which are experiencing a seasonal glut, which creates an oversupply in the local market place, thus lowering the price.

### **Comparison of conventions**

The preceding section has shown that, by and large, online and offline consumers do appear to be motivated by, and appeal to, a similar set of quality conventions. A comparison of the different principle components identified is shown below, along with the different worlds of justification which correlate with these clusters. The significance of the different worlds of justification employed by the two consumer groups is also shown, via reference to the significance of each principle component, in terms of explaining variation in the way consumers answered the shopping motivation questions.

Table 37: Relationship between the clusters of motivational concern identified for online and offline customers and the relevant worlds of justification according to (Boltanski & Thévenot 2006 [1991])

<b>Principle Components (PC)</b>	<b>Online</b>		<b>Offline</b>	
<b>Rank by significance</b>	<b>PC name</b>	<b>World of justification</b>	<b>PC name</b>	<b>World of justification</b>
<b>1</b>	Provenance	Domestic, Civic/Green	Production factors	Domestic, Civic/Green
<b>2</b>	Product integrity	Industrial	Proximity	Domestic
<b>3</b>	Cost Minimisation	Market	Image	Market
<b>4</b>	Image	Market	Cost Minimisation	Market

It can be seen from Table 37 that both online and offline consumers are motivated by similar concerns in relation to the market world, principally including concerns about how the customer might obtain products with the most beneficial attributes for the least financial cost to themselves. This can be seen for example in the customers' concern for low prices and high levels of convenience. In addition, both online AFS and offline farmers' market identified image as a marketable product characteristic but one which was generally viewed as not being important to them. While it is not possible to be conclusive based on the data gathered, it is possible that issues associated with Image in the market world of justification may in fact be a disincentive for both online and offline consumers, with online consumer potentially being more forceful in this view as this principle component explained more variation in their answers than was the case for online consumers.

Both online and offline consumers were also motivated by concerns which relate to the domestic world of justification, which is viewed as central to the nature and existence of AFS (Kirwan 2006; Murdoch, Marsden & Banks 2000; Rosin & Campbell 2009). While elements associated with an interest in food provenance were attributable to both online and offline consumers, offline consumers tended to separate issues associated with the location of product production, from issues associated with how it was produced. As a result two separate clusters of concern were identified for offline consumers which relate to the domestic world. Because all the farmers' markets considered in this study require that the products sold there be produced in a relatively small geographic radius, offline farmers' market customers may not need to actively prioritise it in their purchasing decisions when

they shop there. This is not the case for the online customers surveyed who often had a choice between local and non-local products. As such, the issue of proximity was integrated into online customer's primary motivational cluster, here termed provenance, while for offline farmers' market customers this was a separate and more secondary quality attribute – as it was already assured.

Previous research which has applied conventions theory to AFS has also found that participants tend to appeal to justifications of worth based upon the civic/green world of justification (Kirwan 2006; Rosin & Campbell 2009). This research supports that finding because both the online and offline AFS consumers surveyed appear to be motivated by beneficial outcomes which accrue beyond themselves as individuals to include others in the supply chain as well as the broader environment. This result suggests that the act of buying food through an online AFS does not diminish the extent to which a consumer is likely to be motivated by concerns such as ensuring humane treatment of animals, or the equitable treatment of disempowered supply chain participants via fair trade practices. This is significant, as the conventionalisation thesis would suggest that the more physically and cognitively distant a consumer is from an entity in the supply chain the less likely they are to care about its welfare. For example, being able to have direct face-to-face contact with a farmer at a farmers' market may conceivably make the consumer more likely to consider that persons welfare than would be the case with a remote transaction. However, these results do suggest that the online AFS consumers surveyed continue to make quality assessments using the civic/green world of justification when making online purchasing decisions.

Despite these similarities, one area of distinct motivational difference was identified between online and offline AFS consumers. This is because online consumers seem to place significant importance on issues related to product integrity, which has been associated with the industrial world of efficiency and reliability. Given that online consumers are purchasing products before they have a chance to see them, it is understandable that the reliability of core product attributes, such as nutrition is important to them. One way that online AFS consumers seek to obtain this reliability is to look toward signalling mechanisms, such as whether or not a product has third party organic certification. In contrast, offline farmers' market consumers are able to physically touch, smell and choose items before purchase, as well as to build up trust based relationships with vendors based on face-to-face relationships, as associated with the domestic world. This creates a significant contrast, in which online



consumers more clearly incorporate notions of quality generally associated with the industrial worlds of justification, including the industrial food system, while offline farmers' market customers can appeal to quality parameters from the domestic world, which is more readily associated with AFS.

In aggregate, it would seem that online AFS consumers continue to judge quality in relation to many of the same domestic, market and civic/green worlds of justification associated with offline AFS such as farmers' markets, but have also modified their quality constructs to some degree to represent the unique nature of buying food online. In particular, online consumers seem more willing to appeal to justifications from the industrial world, as a reflection of their greater need for product consistency given that they must outsource the selection of the individual items they will receive and consume.

## **Worlds of Production**

The relationship between conventions theory and the worlds of production theory is alluded to by Storper and Salais (1997, p. 20) when they state that: 'a possible world of production constitutes for economic actors (individuals and firms) the expected coordination of activities in production and exchange, where the expectations are the result of convention which is in turn rooted in recurrence or precedent.' This study has considered the alignment of online and offline consumers with different conventions as measured by the relationship between consumer shopping motivations and the various worlds of justification outlined by Boltanski and Thévenot (2006 [1991]). However, in order to deepen the comparison between online and offline AFS it is now useful to consider how the different case study firms, or sites in the case of farmers' markets, align with the different worlds of production, which, as stated by Storper and Salais, constitute different forms of coordination for efficient production systems.

Prior to considering how the separate case studies accord with the three worlds of production deemed most relevant to AFS (Gonzalez et al. 2011), it is worth revisiting the underlying framework which is used to explain the existence of four unique worlds of production. According to Storper and Salais, at the most basic and ideal level, coherent production activities can be positioned along two dimensions, which relate on the one hand to the type of productive activity and technology employed by a firm, and on the other, to the firms' market orientation.

In relation to productive activity, Storper and Salais suggest that firms either adhere to ‘conventions of specialisation’ or of standardisation (1997, p. 30). In explaining the differences between these two approaches to productive activity they state:

*When a convention of specialization is in use, work activity, the tools and objects upon which it depends, and the product are all strongly identified with persons – a given individual or a specific type of worker, skill or production community. With standardization, in contrast, organisation is founded on eliminating the idiosyncratic character of activity and of individual competences (Storper & Salais 1997, p. 30).*

The end products that result from these different types of productive activity and technology are also held to be different, with the products of standardised production activities sold primarily on the basis of price, due to the fact their quality attributes are easily replicable, because they rely on standard production processes, while those of specialised production systems are sold primarily on the basis of unique quality attributes which are hard to replicate due to the relatively unique nature of the specialised production process.

The second coordination dimension upon which the four worlds of production are predicated relates to the market orientation of the firm. When the production system is orientated toward producing ‘generic’ products which appeal to a large number of people, Storper and Salais (1997, p. 29) suggest firms adhere to conventions which lead the desires of individual consumers to ‘disappear within the multitude of demands, where all individuality is lost’.

Conversely, ‘at the opposite extreme are products defined by a convention in which each demand is unique for the producer, not comparable to any other. For each individual demand, there is a particular product; such a product is *dedicated*’ (Storper & Salais 1997, p. 29).

Where products are produced for a generic market, consumers will tend not to have much contact with the producer because their specific requirements will not change the nature of the generic product, while in dedicated product markets, producer and consumer may have considerable dialogue in order to determine whether or not a particular producer can in fact satisfy that consumer’s particular demand criteria.

When taken together, these two dimensions create four possible worlds of production which Storper and Salais name: the interpersonal world, the market world, the industrial world and the world of intellectual resources.

Previous studies which have employed worlds of production theory when examining AFS, have tended to suggest that they fall within the interpersonal world of production (Murdoch & Miele 1999; Stræte 2004). For example Stræte (2004, p. 231) suggests that within AFS,

*products are designed and produced in a special craft-based way due to local traditions and are locally embedded, and use a technology which is limited to a community of specialists. The market and distribution is targeted and sales are often based on personal relations and trust.*

However, Stræte (2004, p. 231) also suggests that this need not be a permanent situation and states that:

*Product development may involve change of world of production, which also includes change in conventions. From this it follows that innovation includes a break with old conventions and establishing new ones.*

Given the relative novelty of e-commerce dependent AFS compared with more established offline examples like farmers' markets, it is worth considering how this innovation may change their alignment with the different worlds of production. As such, data gathered via the case study research process, including field notes and interviews with organisational actors is used to determine the alignment of the online AFS with the four worlds of production outlined by Storper and Salais.

### **The industrial world**

While in absolute terms the online AFS may not be particularly industrial in nature, they were observed to incorporate a number of features which made them substantially more so than the offline farmers' markets. Furthermore, those components associated with the industrial world of production could be linked directly to their e-commerce dependent business models. According to Storper and Salais (1997, p. 32), the industrial world of production is associated with 'a convention of standardisation of critical resources and competences, which includes the labour process, technology, and the product itself.' In the case of the online AFS their websites act as a standardising device as they both present a uniform presence to all customers, as well as conveying customer orders to the firm in a uniform manner. This contrasts with the farmers' markets surveyed in which the interaction between each customer and vendor could be quite different depending on the character of each individual at that

point in time. Furthermore, the increased number of branded and packaged items sold by the online firms suggests a desire to standardise product quality to a degree, likely due to the customers' inability to physically choose products with quality characteristics which suit their individual needs, as is possible at farmers' markets, as well as the need to ensure that products retain their quality in transit from the firm to the end consumer.

Other factors which point to a greater alignment with the industrial world of production amongst the online AFS is the use of standardised product orders in the form of seasonal vegetable boxes, the contents of which is set by the retailer and is relatively uniform for each customer. Indeed, for all the online firms it was until recently a prerequisite of service that a customer must order such a standardised vegetable box. While these orders generally allow the customer a small degree of customisation, for example, by enabling the customer to specify certain vegetables they do not want to receive, the general predictability of this ordering process allows the firms to instigate more industrial modes of production, such as the assembly line shown in Figure 42 on the next page. Within this product assembly regime, individual workers are responsible for packing only a very limited number of items into each box as it makes it way down the assembly line. This type of labour environment is similar to that ascribed to the industrial world by Storper and Salais (1997, p. 31) in which standardising practices 'eliminate[s] the idiosyncratic nature of activities and individual competencies', instead making actions of individual workers highly atomistic and easily replaceable.



Figure 38: FFH box packing production line

Further highlighting the alignment of the online firm FFH with the industrial world of production is the CEO's stated commitment to product uniformity and consistency, evidenced by the new internal company mantra of 'no shorts, no subs, no errors'.

### **The market world**

While all three online firms have until recently required their customer to place a generic order for a vegetable box, both FFH and Gaia's Table are now attempting to give their customers more flexibility within the ordering process, including moving toward an ordering regime which would enable to customer to place a fully customised order. This change evidences a move toward the market world in which firms tend to use standardised production technology to provide customers with a dedicated product which fits their particular requirements. This shift can be seen in relation to both FFH and Gaia's Table, by the considerable investments they have made in redeveloping their websites and warehouse processes so that orders can be both efficiently processed, including the continued use of assembly line packaging processes, while also offering the customer an increased level of flexibility and choice.

Another indication that online firms are moving toward alignment with the market world can be seen in the decision by Gaia's Table to begin offering product delivery direct to the customers' door, rather than just to a neighbourhood drop off point. This fee for service delivery model, which is already applied by FFH, provides greater product features and customisation for those individuals who are willing to pay for it.

Finally, the two largest online firms, FFH and Gaia's Table, are both set up to capture economic value, or profit, from customers and divert it to the owners of the firm. In relation to FFH this is a classic for-profit scenario in which the entrepreneur and associated contributors of investment capital reap the rewards, as would be expected within the market world. However, the situation is somewhat different for Gaia's Table, in that it is designed to capture profit for later use by its parent company Gaia, which is a not-for-profit company and which does not distribute profit to private individuals. This contrasts with both Fresh BC and the farmers' market organisations investigated which were all independent not-for-profit entities incorporated primarily for the purpose of facilitating trade between local producers and consumers, but which did not seek to extract a profit themselves.

## **The interpersonal world**

In terms of concordance with the interpersonal world of production, there is a degree of difference between the online and offline cases, although not as much as might have been expected given the different form of customer interface. Certainly farmers' markets offer a much greater opportunity for consumers and producers to form direct relationships as evidenced by the fact that 40% of the offline farmers' market shoppers maintain they have formed new relationships with farmers, at the level of an acquaintance, as a result of shopping through that medium. Of the online consumers, only around 6% claimed they have developed such a relationship as a result of using the online shopping medium. Conversely, online shoppers were more likely to form new relationships with other customers than were farmers' market customers. While 18% of online customers have forged new relationships with other customers, only 9% of farmers' markets customers have done so.

While the higher prevalence of new relationships between customers of online stores is perhaps surprising given that farmers' market customers are obviously in physical proximity to one another when they shop, it can be explained by the use of a particular delivery technique by Gaia's Table and Fresh BC. These companies both, until recently in the case of Gaia's Table, required that their customers aggregate into small neighbourhood groups, often at a private residence of a customer, for the purposes of receiving the grocery delivery. This practice of aggregating product delivery within given neighbourhoods may increase the efficiency of the logistic task by as much as 20%, as described by Michalak et al. (2009). In addition, it would seem that requiring consumers to form into 'coalitions' as Michalak et al term them, also has the consequence of increasing the prevalence of interpersonal relationships between customers. This prevalence is valued within the interpersonal world of production and goes some way to explaining why there is not more difference between the online and offline case studies in terms of alignment with this world.

Also generating alignment with the interpersonal world of production is the fact that the majority of food sold by both the online firms and the offline farmers' markets comes from geographically proximate sources. This support for local farmers and food producers demonstrates the existence of conventions which prioritise geographically proximate and idiosyncratic production processes. For example, buying local food may be associated with the maintenance of particular culinary traditions which have a bearing on cultural fabric of a place (Holloway et al. 2007). Also, organic growing practices, at least as they were original

conceived and still commonly understood, tend to reflect the environmental potential of specific locations more strongly than conventional production processes which are more able to apply inputs which combat environmental stresses (Buck, Gets & Guthman 1997; Rosin & Campbell 2009).

### **The world of intellectual resources**

This world of production is characterised by the use of specialised production processes to serve generic markets. According to Stræte (2004, p. 231):

*High-tech in food processing includes not only advanced machinery, but even more sensitive biological processes. However, the technology is limited to a few specialists. An example from dairy products is functional food products, for instance adding probiotic lactic acid bacteria to milk.*

Despite the focus of this study on the application of a particular type of technology, namely e-commerce to a production system, none of the case studies examined are considered particularly relevant to the world of intellectual resources. This is because, the technology being deployed is not particularly sophisticated or ‘high tech’ (Stræte 2004, p. 231) in nature and is widely available, therefore cannot be characterised as being restricted to a community of specialists. Furthermore, the market for AFS, as evidenced by the results of this research, is currently relatively restricted to well-educated consumers with a strong focus on social and environmental issues. As such, it does not appear that that e-commerce dependent AFS are significantly more aligned to the world of intellectual resources than are offline farmers’ markets.

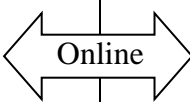
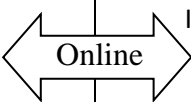
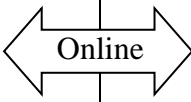
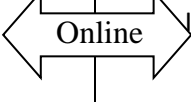
### **E-commerce and the conventionalisation of AFS**

In addition to determining if the application of e-commerce to AFS is associated with an increase in demand from resource constrained consumers, this study has sought to determine if this innovation contributes to the ‘conventionalisation’ of AFS . That is, a narrowing of consumers and producer quality conventions towards the market and industrial worlds. This second part of the research question has been explored with reference to the alignment of consumers with the different worlds of justification as described by conventions theorists

Boltanski and Thévenot (2006 [1991]) and producers with three worlds of production as outlined by Storper and Salais (1997).

According to the theoretical model of online AFS conventionalisation developed earlier in this study and depicted below as Table 38 it is expected that the application of e-commerce to AFS may delay or disrupt the linear notion of conventionalisation, which holds that production systems become more focused on quality conventions associated with market and industrial modes of justification in a relatively sequential manner, as they become more popular and progress through the product lifecycle. The hypothesis being that the application of e-commerce to AFS may create a flatter long tail demand curve, resulting in lower prices and increased demand from resource constrained consumers prior to any significant transition to the more mass market differentiation and industrial/price leadership modes of supply chain coordination (Anderson 2006; Brynjolfsson, Hu & Simester 2011), and also that e-commerce provides new opportunities for mass market orientated firms to address ever smaller niche markets.

Table 38: Hypothesised model of online AFS conventionalisation

	<b>Niche Market Segmentation Strategy</b>	<b>Mass Market Differentiation Strategy</b>	<b>Mass Market Price Leadership Strategy</b>
<b>Consumer (Worlds of Justification)</b>	Civic/Green, Domestic, 	Market 	Industrial
<b>Producer (Worlds of Production)</b>	Interpersonal 	Market 	Industrial

The results of this study have shown that while the online consumers surveyed tended to be more price focused than offline farmers' market customers, actual product prices were slightly more expensive online than at those farmers' markets investigated. This is suggestive that demand has not increased to the point where significant numbers of additional suppliers have entered the market to the point where priced based competition is increased.

In terms of the alignment of quality conventions, the results of this study show that both online AFS consumer and producers do exhibit a number of attributes which align with the industrial world of justification. This includes a pronounced concern for product consistency



on the part of online consumers, which is in turn reflected in the practices of online AFS producers. For example, the use of production lines in which tasks are broken down into smaller and less skilled activities, and the employment of product quality standards which demand high levels of consistency. The result of such standardisation is the creation of more homogenous products, such as the standardised seasonal vegetable boxes and uniform looking products, including a larger amount of packaged products.

Of course, the level of alignment with the industrial world is a relative one, in that the comparison is being made against farmers' markets, which are strongly associated with the interpersonal world, rather than for example a modern supermarket. Despite this, the results do suggest that the use of e-commerce does lead to business models and practices which constitute a form of conventionalisation in comparison to more traditional AFS like farmers' markets.

Interestingly however, the data gathered from the e-commerce dependent firms suggests that rather than moving in a trajectory from interpersonal to industrial, via the market world, they are in fact moving back from the industrial world toward the market world. For example both FFH and Gaia's Table are instigating significant changes to their business models which allow them to offer their customers significantly more product choice, as well as more timely delivery of those products.

According to Storper and Salais, this transition from the industrial world toward the market world is symptomatic of a broader change in the food sector, in which:

*movements from the industrial world toward the market world (...) [are being] seen, particularly with producers of standardised products with high levels of differentiation in very large markets, for example, new food products (...) whose markets are growing with urbanisation and new life-styles (1997, p. 83).*

Explaining why a firm might move away from the industrial world toward the market world Storper and Salais (1997, p. 83) go on to state that there are strategic difficulties in 'achieving a compromise between industrial costs and diversified quality' that is, a compromise between industrial scale processes and the types of product qualities valued within the market and interpersonal worlds. Indeed, according to Storper and Salais, successful products and production systems tend to be aligned with just one world of production. However, other authors disagree and suggest that that innovation and entrepreneurship are often the result of

novel assemblages of conventions drawn from multiple worlds of production. For example Stark (2000, p. 4) states that: ‘entrepreneurship is the ability to keep multiple orders of worth in play and to exploit the resulting ambiguity’, while Lindkvist and Sanchez (2008, p. 345) state that: ‘Innovation may be interpreted as movement by individual firms or isolated artisans from one production world to another.’ This suggests that innovative production and consumption activities may appeal to conventions from multiple worlds of production in the initial stages of product development and marketing, but are likely to solidify into one of the four worlds as the most successful production and consumption conventions are established.

This is important for this research in that it helps explain why innovative entities like the online AFS firms investigated may simultaneously appeal to quality conventions from multiple worlds of justification and production. They start out being strongly aligned with the interpersonal world of production, but as they grow in size they begin to incorporate efficiency measures from the industrial world, like standardised products and high volume production lines to cope with increased demand, before once again altering to include more elements from the market world, such as increased product customisation. This flux suggests that online AFS continue to remain within a relatively innovative and entrepreneurial phase of their development and are much less aligned with one world of production than are offline AFS such as farmers’ markets. Thus, while their greater alignment with the industrial and market worlds of justification and production suggest that online AFS have are somewhat ‘conventionalised’, at least relative to offline farmers’ markets, their ultimate alignment with any one world of production is not yet certain. This finding complicates the notion of a smooth trajectory from alternative to conventional as proposed by the conventionalisation thesis, and instead suggests that the quality conventions employed by producers does not necessarily move in a linear fashion from domestic to industrial or alternative to conventional, but may in fact move in either direction depending in part on the capabilities of the product and information transmission technology employed.

Therefore, while this research has shown that the application of online e-commerce within AFS does appear to be associated with a limited expansion of demand for AFS, primarily via increased average order size, this expansion has come at the expense of some positive AFS attributes, such as interpersonal relationships between producers and consumers. While online retailing is likely to increase demand for AFS products via increased order size, it has

not, as of yet, resulted in the type of competitive pressures required to bring prices down to a level where they are affordable for people exhibiting signs of socio-economic disadvantage. In addition, while there remain significant similarities in the quality conventions employed by online AFS participants and offline farmers' market participants there is nonetheless a pronounced adoption of practices and conventions from the industrial and market production worlds, although not in a manner which accords neatly with a linear conception of 'conventionalisation'.

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## Chapter 8: Conclusion

Agri-food systems are an important area of interdisciplinary study. Beyond the fact food is a constant necessity for every human and every civilisation, rising scientific concern in relation to climate change and energy security makes change in agri-food systems an important area of research. This is because the production, distribution and consumption of food in highly developed economies like Australia and Canada uses significant amounts of energy and also contributes nearly 20% of the greenhouse gases emitted by these countries, which are themselves significant emitters of greenhouse gases globally (Center for Sustainable Systems 2011; Garnett 2008; Weber & Matthews 2008). Given the need to significantly reduce greenhouse gases to avert the worst effects of climate change, continued effort to explore and implement beneficial agri-food system change is required.

In addition to the broad scale concerns of energy sufficiency and climate change, a loosely aligned set of interest groups incorporating both food producers and consumers has emerged to oppose and circumvent a myriad of more local agri-food system concerns (Holloway et al. 2010; Kneafsey et al. 2010; Pollan 2010; Venn et al. 2006). The concerns raised by participants of what Pollan (2010, p. 1) calls a 'food movement rising' include the globally significant environment impacts of industrial agriculture, but also raise more locally approachable concerns such as food safety, declining economic returns for family run farms, poor treatment of animals and reduced access to culturally relevant food.

One of the principle means by which both food producers and food consumers have sought to address these issues is through the establishment of new and notionally more benign production and consumption networks and supply chains. These supply chains and networks, referred to in this study as alternative food systems (AFS), have sparked significant popular and scientific interest, including in countries such as Australia and Canada which are dominated by large scale industrial food production systems (Andree 2009; Andree et al. 2010; Connell et al. 2006; Lockie & Halpin 2005). Farmers' markets have been held up as emblematic manifestations of these AFS because they provide new economic spaces in which consumers and producers can come into contact with each other and exchange not only food and money, but also information about both food production and consumption. The fact that the number of farmers' markets is continuing to grow strongly in many developed economies, including the United States, Australia and the United Kingdom, points to the

significance of AFS as a agri-food system dynamic worthy of further research (Adams 2011; Center for Sustainable Systems 2011).

Much of the research that has been carried out into AFS thus far, however, has tended to be relatively uncritical, painting emergent efforts at food system localisation, such as farmers' markets and community supported agriculture projects, in terms of beneficence which are contrasted with the criticism levelled at the dominant globally integrated food system (Hendrickson & Heffernan 2002; Scrinis 2007). However, these dualistic food system descriptions have increasingly been shown to be overly simplistic in terms of representing empirical reality (Ilbery & Maye 2006). Furthermore, authors such as Claire Hinrich (2003) argue that within much discussion of AFS, terms such as 'local' have become reified such that the contested social processes which exist at this special scale have been closed off from critical analysis. In particular, the variable ability of co-located consumers to access locally produced food through AFS has been highlighted as an issue in need of greater academic research and practical action (Goodman 2009).

If the actions of firms participating in AFS are understood from the perspective of Porter's theory of generic strategies, it is not surprising that given most firms involved in AFS are small firms selling highly differentiated items into niche markets, they do not engage in the type of price based competition which may enable more resource constrained individuals to participate. Furthermore, where AFS firms have pursued scale efficiencies to enable them to reach a broader market, such efforts have been criticised as a form of 'conventionalisation' (Buck, Gets & Guthman 1997; Guthman 2004). That is, according to the conventionalisation critique, attempts to develop AFS such that they have mainstream appeal have led to the dilution of alternative norms and capture of economic value by corporate interests. In turn, this leads to a dilution of the perceived positive social and environmental benefits of AFS, as only those components with the most economic value are extrapolated.

Yet, if some proponents of AFS are to be believed (Barling, Sharpe & Lang 2008; Feindt & Marsden 2009; Pollan 2008), developing and participating in new, more socially and environmentally sustainable means of food provision is not just a desirable lifestyle choice, but is in fact unavoidable at a societal level due to the critical unsustainability of the currently dominant food system model. Certainly, this claim is contentious. For example, there is no consensus that AFS, with their focus on local food production, do in fact offer an environmentally superior means of feeding large populations (Saunders & Barber 2008).

However, given the inviolable necessity of food in the life of every individual and the commonly accepted theory of distributive justice which posits need as the basis for inalienable right, proponents of AFS must grapple with how to expand the reach of such food provision systems such that more resource constrained individuals can participate (Goodman 2009; Lamont 2012b). It is this significant issue which has been addressed by this study.

In seeking to generate new knowledge which might be useful in the effort to make AFS more accessible, this study has developed new means by which to better understand the perceived positive social and environmental attributes associated with AFS. This is important because these attributes do not always accrue directly to the consumer, or in ways they can be readily detected when consuming the item, for example, the biodiversity benefits of organic agriculture, or the contribution to rural employment and culture made by the purchase of locally produced items. In light of the limited experiential nature of these quality attributes, the transfer of information which better enables the consumer to appreciate and understand their contribution becomes especially important in the value creation process.

It is the insight that information transfer is central to the creation of value in AFS, which has led to a focus on internet enabled e-commerce within this study. This is because the effect of internet enabled e-commerce on consumer markets has revolutionised many industries and led to claims that some orthodox theories about competitive strategy are no longer relevant (Eonsoo, Nam & Stimpert 2004). For example, within this study claims made by the popular technology author Chris Anderson (2006) and supported by the research findings of information systems academics such as Brynjolfsson, Hu and Simester (2011) and Choi and Bell (2011) that internet enabled e-commerce is driving significantly increased demand for niche products are used to postulate an increase in price based competition within these markets. This supposition is significant in relation to AFS as it suggests that counter to the proscriptions of Porter's theory of generic strategy, the increased application of e-commerce to AFS may lead to increased price based competition, in tandem with the maintenance of the niche value adding strategies, or quality conventions, for which AFS are currently valued (Eonsoo, Nam & Stimpert 2004).

In order to test this hypothesis, and its implications for resource constrained consumers, the this study has gathered data capable of answering the question: does the use of internet enabled e-commerce within AFS generate increased demand from resource constrained

consumers, while maintaining the same quality conventions associated with offline AFS such as farmers' markets?

For the purposes of answering this question a theoretical model has been developed which utilises both conventions theory (Boltanski & Thévenot 2006 [1991]) and worlds of production theory (Storper & Salais 1997) to highlight the different way which consumers and firm level actors negotiate and communicate variable understandings of quality.

The research methods employed to answer the central study question involved identifying co-located AFS which could be contrasted by their different application of e-commerce. To aid in the generalisability of the research findings, two study sites were identified, both being large affluent cities within countries with highly developed and productive agricultural sectors. This choice of study site location is significant in that the positive performance of online AFS within these highly open and productive markets implies an ability to compete against the globally dominant agri-food system model more broadly.

Within these study sites qualitative and quantitative data was gathered from farmers, retailers and consumers. While price information was gathered from farmers participating at farmers' markets, the majority of qualitative information was obtained via in-depth interviews with key participants with online AFS retailers and a survey instrument applied to 375 consumers who used either offline farmers' markets or online AFS retailers.

The results of this study have demonstrated that online AFS do not appeal to consumers who are significantly more resources constrained than those currently patronising farmers' markets. However, this is not to say that there are not significant differences between the two groups of consumers, as this study has shown that online consumers are significantly more likely to be younger, better educated and more likely to live in multi-person households, including with children, than are farmers' market customers.

Significantly, however, this study did find that online customers tend to purchase more items more regularly than do farmers' market shoppers, and that as such, while this medium is not yet attracting a larger number of resource constrained consumers, those that do use it are likely to have increased levels of demand relative to farmers' market customers. Furthermore, given that the majority of online AFS consumers either did not previously shop at farmers' markets or continue to do so if they did previously, this is suggestive that online AFS may be increasing the total demand for AFS type products, given that farmers' markets are one of the

most widely dispersed AFS formats (Adams 2011; US Dept. of Agriculture 2011). However, it is not possible to determine conclusively the total scale of AFS demand changes, as this study does not take into account other types of AFS retail points, such as consumer run food co-operatives or community supported agriculture projects, which may experience diminished demand as online sales increase. Testing this hypothesis via an expanded study which includes these other AFS retail mediums represents an opportunity for further research.

One of the strongest explanatory factors as to why consumers spend more money with online AFS relative to farmers' markets is the higher levels of convenience offered by the online shopping format, meaning consumers shop more frequently. This study offers new insights in this regard by quantifying the extent and value of this increased convenience. The extent to which online AFS are relatively more convenient than offline farmers' markets has been demonstrated within this study by the finding that approximately 75% of online consumers complete their weekly shopping task in less than 15 minutes, while a similar proportion of farmers' market customers take more than half an hour to complete this task. Using a pricing formula derived from research by Lake and Ferreira (2002), it has been estimated that the value of this time saving is equal to approximately 10% of the average order size for online shoppers. This cost reduction associated with convenience is likely to reduce the slight price advantage that farmers' markets were observed to hold over online AFS. This advantage was demonstrated by the results of a price survey conducted as part of this study, showing that 54% of comparable products were cheaper if purchased at farmers' markets, while a further 7% of products were equally priced.

However, the fact that cost savings associated with increased convenience did not lead more resource constrained consumers to shop online relative to farmers' markets can be partly explained by the fact that the relative size of savings attributable to convenience varies according to the income of the consumer. That is, because the value of convenience is calculated according to the opportunity cost of time, individuals who earn higher incomes derive greater value from increased convenience. Therefore, the results suggest that the increased convenience offered by online AFS is not yet sufficient to compensate for their relatively high prices in the eyes of resource constrained consumers.

While this research suggests that the application of e-commerce within AFS is leading to increased demand for AFS type products, given that order sizes are larger than those at farmers' markets and that the majority of online customers are not diverting demand from



farmers' markets, this increase is also correlated with the adoption of quality conventions not generally associated with AFS. That is, this research has shown that there has been a degree of conventionalisation of AFS as a result of the application of e-commerce, understood as a migration of quality conventions away from those associated with the interpersonal world of production toward the industrial and to a lesser degree the market world of production. This shift can be seen in the increased use of automated technology such as the use of a materials resource planning algorithm by FFH, and the fact that all online aggregation firms investigated used dedicated production lines, operated by staff filling highly simplified and specialised roles.

Significantly however, the changes are perhaps not as significant, or as linear, as suggested by the conventionalisation thesis. For example, the online AFS firms and online AFS customers actually demonstrated a higher level of alignment and interest in quality conventions associated with organic production methods and animal welfare. Furthermore, the research findings suggest that the online AFS investigated were only marginally more focused on quality conventions from the market world of production than were the offline farmers' market respondents. It is not possible to say, however, if this is because the online AFS investigated were not strongly market orientated in general, or because the offline AFS were in fact market oriented already.

In fact, the inability to conceptualise and discuss the relative extent of the differences in conventions identified is a shortcoming of this study. Due primarily to resource constraints, this study does not include data from food systems which could usefully represent the dominant or conventional, food system, for example, supermarkets buying industrially produced food from international markets. If such data was obtained and presented, it would be possible to discuss the extent to which the application of e-commerce is correlated with a change in quality conventions away from those associated with offline AFS, toward the conventional agri-food system. Without this information it has still been possible to make useful statements about absolute movements, including whether or not quality is more or less linked to a particular world of justification or world of production, however, it has not been possible to discuss the scale of any such movement.

## **Wider relevance and contribution to theory**

In addition to its relevance to the growth of alternative food systems, the findings of this study offer important insights into the effect of e-commerce on markets for non-food artisanal products which depend heavily on quality conventions related to the interpersonal world of production. Furthermore, the results of this study demonstrate that conventions theory and worlds of production theory can be usefully combined to examine the interlinking motivations of both consumers and producers.

A recent article by Douglas (2012, p. 1) highlighted a growing demand for ‘authentic’ artisanal products which display unique product characteristics. Demand for such products extends beyond food items to include any item which requires a high degree of skilled hand labour input, especially using skills with historical significance (Stuiver 2006). These artisanal products generally appeal to niche markets due to their idiosyncratic handmade qualities and specific cultural relevance which may have only a narrow audience. As such, the production, marketing and consumption of such products appeals to conventions of quality which accord with the interpersonal world of production (Storper & Salais 1997).

According to a number of popular and academic authors, (Anderson 2006; Brynjolfsson, Hu & Simester 2011; Douglas 2012; Thomas 2012) the growth in demand for artisanal or niche products from the interpersonal world of production is directly related to the growth in e-commerce. One prominent example of the way e-commerce business models have enabled the interpersonal world of production to flourish is the rapid growth of the online marketplace etsy.com. While all types of e-commerce grew strongly in 2011 at around 18%, sales through etsy.com, which only sells handmade artisanal products, grew at 67% (Thomas 2012). This strong growth provides further evidence to support the long tail theory which says that the internet is driving increased demand for niche value added products.

This study has examined if this online growth in demand for niche products is extending to growth in demand for AFS, including from socio-economically diverse consumer groups. At the same time this study has examined how the nature of e-commerce affects those qualities most associated with AFS, many of which are also conventions of quality used in non-food markets. As such, this research is relevant to the sale of non-food products which add value in ways that rely on domestic, civic/green conventions and which by and large operate within the interpersonal world of production. For example, it has been shown that Gaia’s Table and

FFH are able to integrate economic efficiency measures generally associated with the industrial world of production, while continuing to enable one third of their customers to form more-than-transactional relationships with other people in the supply chain, including farmers and other customers. This is significant because it suggests that customers of online only firms can maintain qualitatively rich interpersonal relationships with firm level actors through the internet, while at the same time, the firm can increase process efficiencies in ways that do not impact the consumer's perception of product quality. This suggests that an online long tail demand curve may apply to products which are not physically amenable to digitisation, but which do require a high degree of socialisation between buyer and producer in order to maximise their value.

This finding runs counter to an assertion put forward by Leamer and Storper (2001), which suggests that the effort invested in developing and maintaining face-to-face relationships serves as a kind of collateral against which the other party is willing to offer their trust. For example, the effort a farmer exerts to learn a customers' name and their preferences via repeated face-to-face meetings at a farmers' market would be wasted if that farmer took an unfair commercial advantage and fell out with the customer. Thus, Leamer and Storper suggest that putting in the effort to develop relationships through face-to-face meetings engenders trust between the parties, which once established, results in lowered transactions costs over the long term. However, the findings from this research suggest that in the case of firms occupying the interpersonal world of production, the internet is not a complete barrier to the development of such relationships. One possible explanation for this is that an overt expression of interest and effort in relation to non-market quality conventions, as is the case with both Gaia's Table and FFH when they advertise their commitment to in-house social and environmental programs, serves as a proxy for the effort involved in forming face-to-face relations and therefore helps engender trust.

This is particularly significant for artisanal and niche businesses, many of which bare significant costs associated with building personal relations with customers and suppliers. The potential of the internet to lower costs associated with communication has of course been noted previously. Indeed, according to Porter (2001, p. 66), the most significant impact of the internet is its ability to 'enable the reconfiguration of existing industries that had been constrained by high costs for communicating, gathering information, or accomplishing transactions.' What has been less well explored is the potential of the internet within

industries which have traditionally been heavily reliant on the development of rich, face-to-face relationships in order to communicate not only the intrinsic qualities of a particular good, the benefits of which accrue to the consumer, but also their extrinsic qualities, which the consumer does not experience directly, such as their role in maintaining a particular culture of production (Holloway et al. 2007; Leamer & Storper 2001).

E-commerce presents opportunities for change in this regard as it presents new and varied avenues for rich two way communication at a distance. This increase in interactive communication options may increasingly free artisanal producer from the need to engage face-to-face with every customer, such as at open air market stall, or to invite customers into their production space so that it can operate as a semiotic device. As a result such producers will have an increased ability to adopt efficient production measures such as increased mechanisation or scale. Obviously, if the producer wishes to maintain the authenticity of their operation they should adopt such changes with due consideration for the quality of their output. However, what the internet does do is present opportunities to reduce those costs that are primarily associated with conveying of quality signals, including interpersonal communication, understood as a quality attribute in and of its self.

Furthermore, if the adoption of e-commerce by firms within the interpersonal world means they are less reliant on physical interaction with their customers then they have a greater flexibility to concentrate on and improve the other costs centres within their business. This is significant because according to Porter (2001, p. 75):

*While Internet applications have an important influence on the cost and quality of activities, they are neither the only nor the dominant influence. Conventional factors such as scale, the skills of personnel, product and process technology, and investments in physical assets also play prominent roles.*

The obvious importance placed on warehousing and distribution activities by both FFH and Gaia's Table gives credence to this statement. Given that these physical activities which back up their e-commerce offers are significant cost centres for these businesses, it is not surprising that they incorporate productivist efficiency measures in these areas. Cost reductions in these areas offer increased profitability while at the same time they are not

directly visible by the customer, therefore are less likely to negatively affect the brand value associated with artisanal production processes.

However, the capacity of internet supply lines to obscure moves by suppliers toward more efficient production processes means that small niche suppliers are susceptible to competition from larger firms who employ non artisanal methods but which are increasingly able to incorporate some of the features of the interpersonal world of production into the production-consumption relationship. For example, firms can foster interpersonal relationships with their customers online via social media, including for the purposes of communicating and receiving information about very specific product characteristics. This level of specificity and intimacy in relations between producer and consumer was formally a preserve of actors within the interpersonal world of production, but the internet is making a version of this connection available to more market and industrially focused firms and supply chains.

In the short to medium term the outcome of these changes may be more choice for customers, as well as potentially lowers prices, as competition forces down prices. However, in the longer term many existing niche/artisanal producers may find it increasingly difficult to survive. Some of those that do survive may do so by increasing their focus on that market niche which demands face-to-face interactions. This means that those businesses who are currently operating within niche/artisanal markets and which deploy quality conventions based on the interpersonal world of production are likely to have to choose between increasing their scale and process efficiency in order to compete online, or else redoubling their attempts to add value and compete for a still more premium offline market.

In addition to results which have important competitive strategy implications for niche and artisanal businesses, this study has also provided two important theoretical developments. Firstly, by showing how specific ‘worlds of justification’ developed by Boltanski and Thévenot (2006 [1991]) can overlay the ‘worlds of production’ of Storper and Salais (1997); albeit an abridged version of both theories as is most applicable to the study of AFS (Gonzalez et al. 2011); this study addresses a gap identified by Zibell (2010, p. 111), who laments that in terms of extant theory, there is a ‘lack of coherence between the six polities of Boltanski and Thévenot [...] and the four worlds of ‘worlds of production’ by Storper and Salais’. This model achieves this integration via the recognition that Storper and Salais’ production focused theory has more relevance to firm level actors, that is producers; while the broader conventions theory of Boltanski and Thévenot, captures the wider pallet of

quality parameters available to consumers who are less constrained by issues of production and marketing. Consumer and producers do not employ quality conventions in isolation from one another, but rather the choice of production process and the quality factors which feature in the marketing effort and which are demanded by consumers, are linked. This linkage is dependent on the transmission of information between producers and consumers, with richer more personal means of communication, such as face-to-face interactions in the ‘interpersonal world’ facilitating the transmission of more diverse forms of quality justification. As communication becomes more distant and less interactive, such as when a consumer buys a mass produced item from an unknown factory in an unknown location, the parameters of quality justification become more limited and more dependent on qualities which are carried with the product and experienced directly by the consumer.

The theoretical model developed in this study is also significant in so far as it integrates the more descriptive sociological insights available from ‘conventions theory’ and ‘worlds of production’, with the more proscriptive insights available from Porter’s theory of generic strategies; and through that theory, the wider body of competitive strategy literature. This is particularly useful in so far as it provides a means of incorporating the existing body of knowledge about the impact of e-commerce upon firm and consumer behaviour (Anderson 2006; Brynjolfsson, Hu & Simester 2011; Eonsoo, Nam & Stimpert 2004; Porter 2001).

The empirical results produced by this study also have significant implications for all types of AFS as well as other niche markets especially for artisanal products. In particular, the findings of this research suggest that the application of ICT and internet enabled e-commerce is currently increasing demand for AFS both in terms of the variety of customers participating, and the size of individual customer orders. Furthermore, this increased demand is likely to escalate, as younger and more digitally literate consumers become a larger share of the total population. While this changed demand is likely to increase competition within all AFS markets over time, as of yet, online AFS firms do not appear to be engaging in significant price based competition, or attracting significant numbers of financially constrained customers.

However, the fact that online AFS are able to offer significantly increased levels of convenience, comparable prices and some similarity in the quality conversions they adhere to, creates competitive strategy implications for participants in offline AFS. If online AFS succeed in attracting customers away from offline AFS, such as farmers’ markets and

community supported agriculture projects, then firms within these types of food systems must either adapt and compete on similar terms, or continue to focus on delivering value to a smaller niche market. If such firms attempt to adapt by increasing convenience via ICT adoption and internet enabled e-commerce there will likely be a general shift away from conventions associated with the interpersonal world of production. For example, the recent move by the Victorian Farmers' Market Association to instigate their own online ordering and home delivery service may reduce the number of its customers who form face-to-face relationships with farmers.

If instead, participating firms and enabling organisations choose not to embrace increased ICT and e-commerce usage, they will likely have to reformulate their competitive strategies such that they can profitably appeal to yet smaller niche markets, comprising customers who are fully committed to the direct face-to-face transmission of products and product information. This has important implications beyond the agri-food sector and suggests that traditional offline markets for artisanal and niche products must increase their focus on delivering very specific niche value added products, including product information delivered via face-to-face means, or else innovate in other ways such that they can provide the customers within added value, including via reduced prices or increased levels of convenience.

In summation, it would seem that the application of ICT and e-commerce has not yet developed the market to the point where it is attractive to resource constrained individuals. Furthermore, this application of technology has incrementally, although not fundamentally, altered the conventions of quality for which offline AFS have been lauded. In light of the increased level of convenience and the fact that many quality conventions are retained, it is likely that online AFS will continue to grow and that in the process will place new pressures on offline AFS such as farmers' markets.

## References

- Abel, J, Thompson, J & Maretzki, A 1999, 'Extensions role with farmers' markets: working with farmers, consumers and communities', *Journal of Extension*, vol. 37, no. 5, viewed 11/10/2011, <<http://www.joe.org/joe/1999october/a4.php>>.
- Adam, D 2008, 'Food prices threaten global security - UN', *The Guardian*, 9 April, viewed 13/11/2012, <[www.guardian.co.uk/environment/2008/apr/09/food.unitednations](http://www.guardian.co.uk/environment/2008/apr/09/food.unitednations)>.
- Adams, J 2011, *National food plan submission: creating appetites for farmers' markets in Australia*, Australian Farmers Market Association, viewed 15/11/2011, <[http://www.daff.gov.au/\\_\\_data/assets/pdf\\_file/0004/2006869/Australian\\_Farmers\\_Markets\\_Association.pdf](http://www.daff.gov.au/__data/assets/pdf_file/0004/2006869/Australian_Farmers_Markets_Association.pdf)>.
- Allen, P 2010, 'Realizing justice in local food systems', *Cambridge Journal of Regions, Economy and Society*, vol. 3, pp. 295-308.
- Alterity*, 2012, <<http://oxforddictionaries.com/definition/english/alterity>>.
- Altieri, M 1999, 'The ecological role of biodiversity in agriculture', *Agriculture, ecosystems and environment*, vol. 74, no. 1-3, pp. 19-31.
- Ancarani, F & Shankar, V 2004, 'Price levels and price dispersion within and across multiple retailer types: further evidence and extension', *Journal of the Academy of Marketing Science*, vol. 32, no. 2, pp. 176-187.
- Anderson, C 2004, 'The long tail', *Wired*.
- 2006, *The long tail: why the future of business is selling less to more*, Hyperion, New York.
- Anderson, P 2007, *The case for local and regional food marketing*, Farm and Food Policy Project.
- Andree, P 2007, 'Contesting Productivism?: alternative agri-food networks in Australia', paper presented to XXII Conference of the European Society of Rural Sociology, Wageningen.
- 2009, 'The neoliberalizing environmentalities of alternative agri-food networks in Australia: A critical examination of challenges and possibilities', paper presented to Canadian Political Science Association <<http://www.cpsa-acsp.ca/conference-pres-2009.shtml>>.
- Andree, P, Dibden, J, Higgins, V & Cocklin, C 2010, 'Competitive productivism and Australia's emerging alternative agri-food networks: producing for farmers' markets in Victoria and beyond', *Australian Geographer*, vol. 41, no. 3, pp. 307 - 322.



Angelo, MJ 2010, 'Corn, carbon, and conservation, rethinking US agricultural policy in a changing global environment.', *Geo. Mason L. Rev*, vol. 17, p. 593.

Anglim, J 2007, *Cluster analysis and factor analysis*, University of Melbourne, 02/03/2012, <<http://web.psych.unimelb.edu.au/jkanglim/03clusterandfactoranalysis.pdf>>.

Augustine, S (ed.) 1945, *The city of God: books I to VII*, London.

Australian Bureau of Statistics 2011, *Household use of information technology, Australia, 2010-11*, 8146.0, Australian Bureau of Statistics, Canberra, viewed 19/04/2012, <[www.abs.gov.au/ausstats/abs@nsf/0/4E4D83E02F39FC32CA25796600152B4F4?opendocument](http://www.abs.gov.au/ausstats/abs@nsf/0/4E4D83E02F39FC32CA25796600152B4F4?opendocument)>.

— 2012, *Average Weekly Earnings Australia, November, 2012*, Australian Bureau of Statistics, Canberra, viewed 02/05/2013, via 6302.0, <<http://www.abs.gov.au/ausstats/abs@nsf/Lookup/6302.0main+features3Nov%202012>>.

Australian Productivity Commission 2005, *Trends in Australian agriculture*, Canberra.

Balnave, N & Patmore, G 2012, 'Roshdale consumer co-operatives in Australia: decline and survival', *Business history*, vol. 54, no. 6, pp. 986-1003.

Barling, D, Sharpe, R & Lang, T 2008, *Rethinking Britain's food security*, Centre for Food Policy Research, City University, London.

Barnard, H 1999, *Food, nutrition, low income and health in Australia*, Eat Well SA, Adelaide.

Betancourt, R & Gautschi, D 1988, 'The economics of retail firms', *Managerial and Decision Economics*, vol. 9, pp. 133-144.

Biggart, N & Beamish, T 2003, 'The economic sociology of conventions: habit, custom, practice and routine in market order', *Annu. Rev. Sociol.*, vol. 29, pp. 443-464.

Bijman, J, Muradian, R & Chechin, A 2011, 'Agricultural cooperatives and value chain coordination: towards an integrated theoretical framework', in B Helmsing & S Vellema (eds), *Value chains, inclusion and endogenous development: Contrasting theories and realities* Routledge, New York, pp. 82-101.

Boltanski, L & Thévenot, L 2006 [1991], *On Justification: economies of worth*, Princeton University Press, Princeton.

Bossuet, J 1709, *Politique tirée des propres paroles de l'Écriture-Sainte. A monseigneur le Dauphin. Ouvrage posthume*, Paris.

- Bowman, C 2008, 'Generic strategies: a substitute for thinking?', *The Ashridge Journal*, <<http://www.ashridge.org.uk/360>>.
- Brunori, G 2006, 'Post-rural processes in wealthy rural areas: hybrid networks and symbolic capital', in T Marsden & J Murdoch (eds), *Between the local and global, confronting complexity in the contemporary agri-food sector*, Elsevier, Oxford, pp. 121-141.
- 2007, 'Local food and alternative food networks: a communication perspective', *Anthropology of Food*, vol. March.
- Brunori, G, Guidi, F & Rossi, A Forthcoming, 'On the new social relations around and beyond food. Analysing consumers' role and action.', *Sociologia Ruralis*.
- Brynjolfsson, E, Hu, Y & Simester, D 2011, 'Goodbye Pareto principle, hello Long Tail: the effect of search cost on the concentration of sales', *Management Science*, vol. 57, no. 8, pp. 1373-1386.
- Brynjolfsson, E & Smith, M 2000, 'Frictionless commerce? A comparison of internet and conventional retailers', *Management Science*, vol. 46, no. 4, pp. 563-584.
- Buck, D, Gets, C & Guthman, J 1997, 'Archaic' relations of production in modern agricultural production systems: the organic vegetable commodity chain in Northern California ', *Sociologia Ruralis*, vol. 37, no. 1, pp. 3-19.
- Butler, B, Jacqueline, P & Catherine, R 2009, 'Growing local food systems: information technology use and impacts in geographically-embedded markets ', in *Thirtieth International Conference on Information Systems*, Phoenix, Arizona, vol. 92.
- Center for Sustainable Systems 2011, *U.S food system fact sheet*, University of Michigan, Michigan, viewed 09/11/2011, <[http://css.snre.umich.edu/css\\_doc/CSS01-06.pdf](http://css.snre.umich.edu/css_doc/CSS01-06.pdf)>.
- Chaston, I, Badger, B, Mangles, T & Sadler-Smith, E 2001, 'The Internet and e-commerce: an opportunity to examine organisational learning in progress in small manufacturing firms?', *International Small Business Journal*, vol. 19, no. 2, pp. 13-30.
- Choi, J & Bell, D 2011, 'Preference minorities and the Internet', *Journal of Marketing Research*, vol. 48, no. 670-682.
- Chrisman, J, Hofer, W & Boulton, W 1988, 'Toward a system for classifying business strategies', *The academy of management review*, vol. 13, no. 3, pp. 413-428.
- Coase, R 1937, 'The nature of the firm', *Economica*, vol. 4, no. 16, pp. 386-405.
- Connell, D & Smithers, J 2008, 'Farmers' markets and the "good food" value chain: a preliminary study', *Local Environment*, vol. 13, no. 3, pp. 169-185.

Connell, D, Taggart, T, Hillman, K & Humphrey, A 2006, *Economic and Community Impacts of Farmers' markets in British Columbia* University of Northern British Columbia, Prince George.

Copp, D [1992] 2012, 'The right to an adequate standard of living: justice, autonomy and the basic needs', in J Lamont (ed.), *Distributive Justice*, Ashgate, Farnham, UK.

Cotteril, R 2006, 'Antritrust analysis of supermarkets: global concerns playing out in local markets', *The Australian Journal of Agriculture and Resource Economics*, vol. 50, no. 1, pp. 17-32.

Creppell, I 2007, review of *On Justification: economies of worth* by Luc Boltanski, Laurent Thévenot, Catherine Porter, *Perspectives on Politics*, vol. 5, no. 1, pp. 144-146.

Daly, H 1994, *For the common good*, Beacon Press, Boston.

— 1996, *Beyond Growth*, Beacon Press, Boston.

Daniel, E, Wilson, H & Myers, A 2002, 'Adoption of e-commerce by SMEs in the UK: towards a stage model', *International Small Business Journal*, vol. 20, pp. 253-270.

Day, G 1981, 'The product life cycle: analysis and applications issues', *Journal of Marketing*, vol. 45, no. 4, pp. 60-67.

Day, I 1993, *Quantitative data analysis: a user friendly guide for social scientists*, Routledge, London.

de Saint Simon, H 1841, *Euvres de Saint-Simon ... Précédés de fragmens de l'histoire de sa vie écrite par lui-même, publiés en 1832 par. Rodrigues*, Paris.

Delind, L 2006, 'Of bodies, place, and culture: re-situating local food', *Journal of Agricultural and Environmental Ethics*, vol. 19, no. 2, pp. 121-146.

Doherty, K 2006, 'Mediating critiques of the alternative food movement: growing power in milwaukee', Masters thesis, University of Wisconsin - Milwaukee.

Douglas, J 2012, 'Butcher, baker, candlestick maker: artisans make a comeback', *BRW*, viewed 12/10/2012, <[http://www.brw.com.au/p/sections/features/butcher\\_baker\\_candlestick\\_maker\\_Sog59AkKWZDGImD7YLNxLO](http://www.brw.com.au/p/sections/features/butcher_baker_candlestick_maker_Sog59AkKWZDGImD7YLNxLO)>.

Doyle, M & Ferguson, S 2011, *A bloody business*, Sydney, Australia. Distributed by The Australian Broadcasting Corporation.

DuPuis, M & Goodman, D 2005, 'Should we go "home" to eat? towards a reflexive politics of localism', *Journal of Rural Studies*, vol. 21, pp. 359-371.

Economist Intelligence Unit 2011, *Global Liveability Rankings*, The Economist Magazine, 03/01/2012, <[www.eiu.com/site\\_info.asp?info\\_names=the\\_global\\_liveability\\_report](http://www.eiu.com/site_info.asp?info_names=the_global_liveability_report)>.

Elberse, A & Oberholzer-Gee, F 2007, 'Superstars and underdogs: an examination of the long tail phenomenon in video sales', paper presented to Working Paper Series 07-015, Harvard Business School, Boston.

Elliot, R & Yannopoulou, N 2007, 'The nature of trust in brands: a psychosocial model', *European Journal of Marketing*, vol. 41, pp. 988-998.

Eonsoo, K, Nam, D-i & Stimpert, JL 2004, 'The applicability of Porter's generic strategies in the digital age: assumptions, conjections, and suggestions', *Journal of Management*, vol. 30, pp. 569-589.

FAO 2012, 'Road to Rio: Improving energy use key challenge for worlds food systems', viewed 20/06/2012, <<http://www.fao.org/news/story/en/item/146971/icode/>>.

Feindt, P & Marsden, T 2009, 'The food crisis - systemic risk, regime change and system transformation', paper presented to 23rd European Society of Rural Sociology Conference, Vasa,.

Feller, A, Shunk, D & Callerman, T 2006, *Value Chains Versus Supply Chains*, BPTrends, 15/02/2010, Article, <<http://www.bptrends.com/publicationfiles/03-06-ART-ValueChains-SupplyChains-Feller.pdf>>.

Finkelstien, J 2003, 'The taste of boredom: MacDonaldization and Austrailian food culture', *American Behavioral Scientist*, vol. 43, pp. 187-200.

Fonte, M 2002, 'Food systems, consumption models and risk perception in late modernity', *International Journal of Sociology of Agriculture and Food*, vol. 10, no. 1, pp. 13-21.

— 2006, 'Slow food presidia: what do small producers do with big retailers?', in T Marsden & J Murdoch (eds), *Between the local and the global: confronting complexity in the contemporary agri-food sector*, Elsevier, Oxford, pp. 203-237.

Food and water watch 2010, *Consolidation and buyer power in the grocery sector*, Food and water watch,, 20/02/2012, <<http://documents.foodandwaterwatch.org/doc/RetailConcentration-web.pdf>>.

Fraser, C, Jackson, H, Judd, F, Komiti, A, Robins, G, Murray, G, Humphreys, J, Pattison, P & Hodgins, G 2005, 'Changing places: the impact of rural resturcuring on mental health in Australia', *Health and Place*, vol. 11, no. 2, pp. 157-171.

Galloway, L, Saunders, J & Deakins, D 2011, 'Rural firms use of the internet: from global to local', *Journal of Rural Studies*, vol. 27, pp. 254-262.

Gardner, D 1987, *The product life cycle: Its role in marketing strategy/some evolving observations about the life cycle*, Working Paper 1304, Bureau of Economic and Business Research.

Garland, R 1991, 'The mid-point on a rating scale: is it desirable?', *Marketing Bulletin*, vol. 2, pp. 66-70.

Garnaut, R 2011, 'Garnaut climate change review update paper 4: Transforming rural land use', viewed 02/05/2012, <<http://www.garnautreview.org.au/update-2011/update-papers/up4-transforming-rural-land-use.html>>.

Garnett, T 2008, *Cooking up a storm: food, greenhouse gas emissions and our changing climate*, University of Surrey, United Kingdom.

Gonzalez, V, Hernandez, J, Amandor, J & Santos, J 2011, 'How to measure conventions? Testing a quantitative methodology to measure the embeddedness of conventions in the D.O wine districts of Castile and Leon (Spain). ', paper presented to Fourth International Conference of Economics, Management Science and History of Wine, Zaragoza, Spain.

Goodland, R 1997, 'Environmental sustainability in agriculture: diet matters ', *Ecological Economics*, vol. 23, no. 3, pp. 189-200.

Goodman, D 2003, 'The quality turn and alternative food practices: reflections and agenda', *Journal of Rural Studies*, vol. 19, pp. 1-7.

— 2004, 'Rural Europe redux? Reflections on alternative agro-food networks and regime change', *Sociologia Ruralis*, vol. 4, no. 1, pp. 3-16.

— 2009, *Place and space in alternative food networks: connecting production and consumption*, Department of Geography, Kings College, London.

Goodman, M, Goodman, D & Redclift, M 2009, *Situating Consumption, space and place*, Department of Geography King's College London, <<http://www.kcl.ac.uk/schools/sspp/geography/research/epd/working.html>>.

Gray, E, Sheng, Y, Oss-Emer, M & Davidson, A 2012, *Agricultural productivity: trends and policies for growth*, ABARES, Canberra, viewed 15/12/2012, <[http://adl.brs.gov.au/data/warehouse/agcomd9abcc004/agcomd9abcc004201203/AC2012.V2.1\\_AgProductivityV1.0.0.pdf](http://adl.brs.gov.au/data/warehouse/agcomd9abcc004/agcomd9abcc004201203/AC2012.V2.1_AgProductivityV1.0.0.pdf)>.

Green, J & Kleiner, A 2009, 'Escaping the bondage of the modern agri-food system: community based cooperative strategies', *Southern Rural Sociology*, vol. 24, no. 2, pp. 149-168.

Grey, D 2004, *Doing research in the real world*, Sage, London.

Gusumano, MA, Kahl, S & Suarez, F 2006, *Product, process and service: A new industry life cycle*, MIT, Working Paper.

Guthman, J 2003, 'Fast food/organic food: reflexive tastes and the creation of 'yuppie chow'. ', *Social and cultural geography*, vol. 4, no. 1, pp. 45-58.

— 2004, 'The trouble with organic light: a rejoinder to the conventionalization debate', *Sociologia Ruralis*, vol. 44, no. 3, pp. 301-316.

— 2007, 'Commentary on teaching food: why I'm fed up with Michael Pollan et al ', *Agriculture and Human Values*, vol. 24, pp. 261-264.

Hardesty, S 2008, 'The growing role of local foods markets', *American Journal of Agricultural Economics*, vol. 90, no. 5, pp. 1289-1295.

Harland, M, Lamming, R, Zheng, J & Johnson, T 2001, 'A taxonomy of supply networks', *Journal of supply chain Management*, vol. 37, no. 4, pp. 21-27.

Hendrickson, MK & Heffernan, WD 2002, 'Opening spaces through relocalization: locating potential resistance in the weaknesses of the global food system', *Sociologia Ruralis*, vol. 42, pp. 347-369.

Henson, S & Reardon, T 2005, 'Private agri-food standards: implications for food policy and the agri-food system', *Food Policy*, vol. 30, no. 3, pp. 241-253.

Hesse-Biber, SN 2010, *Mixed methods research: merging theory with practice*, Guilford, New York.

Hingley, M 2005, 'Power to all our friends? Living with imbalance in supplier–retailer relationships', *Industrial Marketing Management*, vol. 34, no. 8, pp. 848-858.

Hinrichs, C 2000, 'Embeddedness and the local food system: notes on two types of direct agricultural market', *Journal of Rural Studies*, vol. 16, pp. 295-303.

— 2003, 'The practice and politics of food system localisation', *Journal of Rural Studies*, vol. 19, no. 1, pp. 33-45.

Hinrichs, C & Kramer, K 2002, 'Social inclusion in a midwest local food system project ', *Journal of Poverty*, vol. 6, no. 1, pp. 65-90.

Hinz, O, Eckert, J & Skiera, B 2011, 'Drivers of the long tail phenominon: an empirical example', *Journal of Management Information Systems*, vol. 27, no. 4, pp. 43-69.

Hobbs, T 1650, *De corpore politico: or, the elements of law, moral and politick; with discourses upon several heads; as, of the law of nature; oaths and covenants; severall kind of government; with the changes and revolutions of them*, London.

Hogpin, C & Mirriman, J 2010, *UK Internet grocery - threat, opportunity or necessary evil*, Bernstein Research.

Holland, L & Ewalt, D 2006, 'How Americans make and spend their money', *Forbes*, viewed 20/06/2012, <[http://www.forbes.com/2006/07/19/spending-income-level\\_cx\\_lh\\_de\\_0719spending.html](http://www.forbes.com/2006/07/19/spending-income-level_cx_lh_de_0719spending.html)>.

Holloway, L 2002, 'Virtual Vegetables and adopted sheep: ethical relation, authenticity and internet-mediated food production technologies', *Area*, vol. 34, no. 1, pp. 70-81.

Holloway, L, Cox, R, Kneafsey, M, Dowler, E, Venn, L & Toumainen, H 2010, 'Are you alternative? 'Alternative food networks and consumers definitions of alterity ', in D Fuller, A Jonas & R Less (eds), *Interrogating Alterity*, Ashgate, Farnham.

Holloway, L, Kneafsey, M, Venn, L, Cox, R, Dowler, E & Tuomainen, H 2007, 'Possible food economies: a methodological framework for exploring food production-consumption relationships', *Sociologia Ruralis*, vol. 47, no. 1, pp. 1-19.

Holt, G 2007, 'Local Food in European Supply Chains: Reconnections and Electronic Networks', *Anthropology of Food*, viewed 15/02/2010, <<http://aof.revues.org/index479.html>>.

Ilbery, B & Maye, D 2006, 'Retailing local food in the Scottish-English borders: A supply chain perspective', *Geoforum*, vol. 37, pp. 352-367.

Jones, C, Hesterly, W & Borgatti, S 1997, 'A general theory of network governance: exchange conditions and social mechanisms', *The academy of management review*, vol. 22, no. 4, pp. 911-945.

Jones, O, Kirwan, J, Morris, C, Buller, H, Dunn, R, Hopkins, A, Whittington, F & Wood, J 2010, 'On the alternativeness of alternative food networks: sustainability and the co-production of social and ecological wealth', in D Fuller, A Jonas & R Lee (eds), *Interrogating Alterity*, Ashgate, Farnham, UK.

Kaplan, A 1964, *The conduct of inquiry*, Chandler, San Francisco.

Kenner, R 2008, *Food Inc*, US. Distributed by Magnolia Pictures.

Kenner, R, Pearce, R, Schlosser, E, Robledo, M & Pohlade, W 2009, *Food Inc*, Magnolia Home Entertainment.

Kezis, A, Gwebu, T, Peavey, S & Cheng, H 1998, 'A study of consumers at a small farmers market in Maine: results from a 1995 survey', *Journal of food distribution research*, pp. 91-99.

Killebrew, K & Wolff, H 2010, *Environmental Impacts of Agricultural Technologies*, Evans school of public policy, Univesity of Washington.

Kiong, L 2004, 'Analysis of the state of e-commerce adoption by SMEs in Northern Malaysia and factors that might hinder its adoption: an empirical study', PhD thesis, University of South Australia.

Kirwan, J 2004, 'Alternative strategies in the Uk food system: interrogating the alterity of farmers' markets', *Sociologia Ruralis*, vol. 44, no. 4, pp. 395-415.

— 2006, 'The interpersonal world of direct marketing: examining conventions of quality at UK farmers' markets', *Journal of Rural Studies*, vol. 22, pp. 301-312.

Kirwan, J & Slee, B 2007, 'Exploring hybridity in food supply chains', paper presented to 105th Seminar of the European Association of Agricultural Economists: international marketing and international trade of quality food products, Bologna.

Kjeldsen, C & Ingemann, J 2010, 'The Danish organic movement: from social movement to market mainstream and beyond...?', in D Fuller, A Jonas & R less (eds), *Interrogating Alterity*, Ashgate, Farnham.

Kneafsey, M, Holloway, L, Dowler, E, Cox, R, Tuomainen, H, Ricketts-Hein, J & Venn, L 2010, 'Reconnecting Consumers, Food and Producers: exploring 'alternative' networks', <[www.consume.bbk.ac.uk/researchfindings/reconnecting.pdf](http://www.consume.bbk.ac.uk/researchfindings/reconnecting.pdf)>.

Korman, N & Morgens, B 2005, 'Grocery e-commerce: consumer behaviour and business strategies: an introduction', in N Korman & B Morgens (eds), *Grocery e-commerce: consumer behaviour and business strategies*, Edward Elgar Publishing Limited, Cheltenham.

Kotzab, H & Teller, C 2005, 'To pay or not to pay, that is the question. Conceptual model and the emprical results of consumers' view of home delivery. ', in N Korman & M Bjerre (eds), *Grocery e-commerce: consumer behaviour and business strategies*, Edward Elgar Publishing Limited, Cheltenham, pp. 36-58.

Kutchler, F & Tegene, A 2006, *Did BSE announcements reduce beef purchases*, United States Department of Agriculture, Washington.

Lake, M & Ferreira, L 2002, *Modelling tolls: values of time and elasticities of demand: a summary of evidence*, School of Civil Engineering, Queensland University of Technology, Brisbane.

Lamont, J 2012a, 'Incentive income, deserved income and economic rent', in J Lamont (ed.), *Distributive Justice*, Ashgate, Farnham, UK.

— 2012b, 'Introduction', in J Lamont (ed.), *Distributive justice*, Ashgate, Farnham, UK.



- Lamont, M & Thevenot, L 2000, *Introduction: toward a renewed comparative cultural sociology* eds M Lamont & L Thevenot, Cambridge University Press, Cambridge, UK.
- Lang, T 2010, 'From 'value-for-money' to 'values-for-money'? Ethical food and policy in Europe', *Environment and Planning A*, vol. 42, no. 8, pp. 1814-1832.
- Lazzarini, S, Chaddad, F & Cook, M 2001, 'Integrating supply chain and network analysis: the study of netchains', *Chain and network science*, vol. 1, no. 1, pp. 7-21.
- Leamer, E & Storper, M 2001, 'The economic geography of the internet age', in Nation Bureau of Economic Research Working Paper, Massachusetts.
- Lev, L, Brewer, L & Stephenson, G 2004, *Tools for rapid market assessment*, Oregon State University Extension Service, Corvallis, OR.
- Lincoln, YS & Guba, E 1985, *Naturalistic enquiry*, Sage, Beverly Hills, CA.
- Lindkvist, K & Sanchez, J 2008, 'Conventions and innovation: a comparison of two localized natural resource-based industries', *Regional Studies*, vol. 42, no. 3, pp. 343-354.
- Little, R, Maye, D & Ilbery, B 2010, 'Collective purchase: moving local and organic foods beyond the niche market', *Environment and Planning A*, vol. 42, pp. 1797-1813.
- Lockie, S & Halpin, D 2005, 'The 'conventionalisation' thesis reconsidered: structural and ideological transformation of Australian organic agriculture', *Sociologia Ruralis*, vol. 45, no. 4, pp. 284-307.
- Lockie, S & Pritchard, B 2001, 'Linking production, consumption and environment in agri-food research', in S Lockie & B Pritchard (eds), *Consuming food sustaining environments*, Australian Academic Press, Rockhampton, Australia.
- Long, D 2011, *Marketing to grocery buyers*, The Nielsen Company, <au.nielsen.com/site/.../MarketingtoGroceryBuyersADNEWSJuly292011.pdf >.
- Lucas, C 2007, 'Hungry for oil', *The Guardian*, 29 January, viewed 13/11/2012, <www.guardian.co.uk/commentisfree/2007/jan/29/peakoilthreatensukfoodsec>.
- Marsden, T, Banks, J & Bristow, G 2000, 'Food supply chain approaches: exploring their role in rural development', *Sociologia Ruralis*, vol. 40, pp. 424-438.
- Marsden, T & Smith, E 2005, 'Ecological entrepreneurship: sustainable development in local communities through quality food production and local branding', *Geoforum*, vol. 36, no. 4, pp. 440-451.

Mathews, B & Falvey, L 1999, 'Year 10 students' perceptions of agricultural careers: Victoria (Australia)', *Journal of International Agricultural Education and Extension*, vol. 6, no. 1, pp. 55-67.

Matsins, J, Sullins, M & Cook, C 2013, *The role of food hubs in local food marketing*, USDA, Washington.

Maynard, R 2009, 'Uk food security: peak oil, climate change and unstable commodity prices mean that British agriculture', *Soundings*, vol. 42.

Mazzocchi, M & Lobb, A 2005, 'A latent-variable approach to modelling multiple and resurgent meat scares in Italy', paper presented to 11th International Congress of the European Association of Agricultural Economists, Copenhagen.

McKinna, D 2011, *Are supermarkets milking producers*, 02/05/2013, <[http://www.daff.gov.au/\\_\\_data/assets/pdf\\_file/0009/1894257/David\\_McKinna\\_-\\_Food\\_Industry.pdf](http://www.daff.gov.au/__data/assets/pdf_file/0009/1894257/David_McKinna_-_Food_Industry.pdf)>.

McKinnon, A 2010, 'Decarbonising Logistics', paper presented to Institute of transport and logistics studies seminar, Edinburgh, UK.

Meijer, SA 2004, 'The impact of the netchain laboratory: gaming for insight in netchains', paper presented to PhD conference of Mansholt Graduate School, Wageningen.

Mendo, FA & Facanha, G 2005, 'Theoretical approaches to study SMEs eBusiness progression', *Journal of Computing and Information Technology*, vol. 2, pp. 123-136.

Mennell, S 2008, 'Culinary cultures of Europe: food, history, health and identity', in J Germov & L Williams (eds), *A sociology of food and nutrition*, Oxford University Press, Melbourne, pp. 245-259.

Michalak, T, Tyrowicz, J, McBurney, P & Wooldridge, M 2009, 'Exogenous coalition formation in the e-marketplace based on geographical proximity', *Electronic Commerce Research and Applications*, vol. 9.

Molina Azorin, JM & Cameron, R 2010, 'The application of mixed methods in organisational and mixed methods: a literature review.', *The electronic journal of business research methods*, vol. 8, no. 2, pp. 95-108.

Morgan, K, Marsden, T & Murdoch, J 2006, *Worlds of food: place, power, and provenance in the food chain*, Oxford, Oxford.

Murdoch, J, Marsden, T & Banks, J 2000, 'Quality, nature, and embeddedness: some theoretical considerations in the context of the food sector', *Economic Geography*, vol. 76, no. 2, pp. 107-125.

Murdoch, J & Miele, M 1999, 'Back to Nature: changing worlds of production in the food sector', *Sociologia Ruralis*, vol. 39, pp. 465-483.

- Murphy, A 2003, '(Re)solving time and space: fulfilment issues in online grocery retailing', *Environment and Planning A*, vol. 35, pp. 1173-1200.
- Najafi, M & Bin Mohd Shariff, MK 2011, 'The concept of place and sense of place in architectural studies', *International Journal of Human and Social Sciences*, vol. 6, no. 3, pp. 187-193.
- Naylor, R 2008, 'Managing food production systems for resilience ', in F Chapman, G Kofinas & C Folke (eds), *Principles of natural resource stewardship: resilience based management in a changing world*, Springer, New York.
- Newson, J 2013, *Logistic regression*, Portland State University, 01/03/2012, <<http://www.upa.pdx.edu/IOA/newsom/pa551/lectur21.htm>>.
- Niles, D & Roff, R 2008, 'Shifting agrifood systems: the contemporary geography of food and agriculture; an introduction', *GeoJournal*, vol. 73, no. 1, pp. 1-10.
- Noe, E & Alroe, H 2010, 'Quality, coherence and co-operation: A framework for studying the mediation of qualities in food networks and collective marketing strategies', *International Journal of Sociology of Agriculture & Food*, vol. 18, no. 1, pp. 12-27.
- Norris, P 2004, *Digital divide civic engagement, information poverty, and the internet worldwide*, Cambridge University Press, Cambridge, UK.
- O'Connor, A 2011, 'Fence row to fence row: an examination of federal commodity subsidies', *Kan. JL & Pub. Pol'y*, vol. 21, p. 432.
- Onwuegbuzie, A & Leech, N 2004, 'Enhancing the interpretation of "significant" findings: the role of mixed methods research', *The Qualitative Report*, vol. 9, no. 4, pp. 770-792.
- Pitt, LF, Berthon, PR, Watson, RT & Zinkhan, GM 2002, 'The Internet and the birth of real consumer power', *Business Horizons*, vol. 45, no. 4, pp. 7-14.
- Pocock, B 2009, *Low paid workers, changing patterns of work and life, and participation in vocational education and training: a conversation starter*, National Centre for Vocational Education Research, Adelaide.
- Pollan, M 2006, *The omnivore's dilemma: a natural history in four meals*, Penguin, London.
- 2008, *In defense of food: an eater's manifesto*, Penguin, New York.
- 2010, 'The food movement, rising', *The New York Review*, June 10.
- Ponte, S 2009, 'Governing through quality: conventions and supply relations in the value chain for south african wine', *Sociologia Ruralis*, vol. 49, no. 3, pp. 236-257.

Porter, M 1980, *Competitive Strategy*, Free Press, New York.

Porter, M 2001, 'Strategy and the Internet', *Harvard Business Review*, March 2001.

Princen, T 1997, 'The shading and distancing of commerce: when internationalization is not enough', *Ecol. Econ.*, vol. 20, pp. 235-253.

Product 2013, *Monash University Marketing Dictionary*, Monash University Department of Business and Economics,  
<<http://www.buseco.monash.edu.au/mkt/dictionary/result.php?term=p>>.

Prud'homme, A & Boyer, K 2005, 'A comparison of in-store vs. online grocery customers', in N Kornum & M Bjerre (eds), *Grocery e-commerce: consumer behaviour and business strategies*, Edward Elgar Publishing Limited, Cheltenham, pp. 79-97.

Renting, H, Marsden, T & Banks, J 2003, 'Understanding alternative food networks: exploring the role of short food supply chains in rural development', *Environment and Planning A*, vol. 35, pp. 393-411.

Retailbiz 2012, *Retail commerce to reach \$34.8bn by 2013*, 15/04/2012,  
<<http://www.retailbiz.com.au/2012/03/19/article/Online-commerce-to-reach-34-8B-by-2013/LKPZIUFWPM>>.

Ritzer, G 1998, *The Mcdonaldization of society*, Pine Forge Press, Thousand Oaks CA.

Rodriguez-Ardura, I, Martinez-Lopez, F & Luma, P 2009, 'The Consumer and the Web: a critical review of the contributions made by marketing and the consumer behaviour discipline to Web Science ', in *Society On-line*, Athens, Greece.

Rosin, C & Campbell, H 2009, 'Beyond bifurcation: examining the conventions of organic agriculture in New Zealand', *Journal of Rural Studies*, vol. 25, pp. 35-47.

Rossi, A & Brunori, G 2010, 'Drivers of transformation in the agro-food system. GAS as co-production of alternative agri-food networks. ', paper presented to 9th European IFSA Symposium Vienna.

Rothwell, R 1989, 'Small firms, innovation and industrial change', *Small Business Economics*, vol. 1, pp. 51-64.

Roukhkian, G & Bardouniotis, E 2011, *The Canadian Food Retail Sector*, Business Network Switzerland, viewed 3/03/2012,  
<[http://www.osec.ch/sites/default/files/bbf\\_Canada\\_FoodRetail\\_Feb2011.pdf](http://www.osec.ch/sites/default/files/bbf_Canada_FoodRetail_Feb2011.pdf)>.

Rousseau, J 1762, *Du Contrat Social; ou, Principes du droit politique*, Amsterdam.

Rye, S 2012, *Future of food trends: how technology will decentralize the global food system*, [www.foodtechconnect.com](http://www.foodtechconnect.com), 29/05/2012, <<http://www.foodandtechconnect.com/site/2012/05/25/future-of-food-trends-how-technology-will-decentralize-the-global-food-system/#>>.

Sage, C 2003, 'Social embeddedness and relations of regard:: alternative 'good food' networks in south-west Ireland', *Journal of Rural Studies*, vol. 19, no. 1, pp. 47-60.

Salais, R 2001, 'A presentation of the French "économie des conventions". Application to labour issues', paper presented to Seminar of the ESCR-Center of Business Research at the University of Cambridge, Cambridge, UK.

Sale, J, Lohfeld, L & Brazil, K 2002, 'Revisiting the qualitative-quantitative debate: implications for mixed methods research', *Quality and Quantity*, vol. 36, pp. 43-53.

Sanderson, K, Gertler, M, Martz, D & Mahibir, R 2005, *Farmers' markets in America: a background document*, Community-University Institute for Social Research, Saskatoon, CA, viewed 03/02/2012, <[http://www.usask.ca/cuisr/docs/pub\\_doc/economic/FarmersMarket.pdf](http://www.usask.ca/cuisr/docs/pub_doc/economic/FarmersMarket.pdf)>.

Sapsford, R & Jupp, V 2006, *Data collection and analysis*, Sage London.

Saunders, C & Barber, A 2008, 'Carbon Footprints, Life Cycle Analysis, Food Miles: Global Trade Trends and Market Issues', *Political Science*, vol. 60, no. 1, pp. 73-88.

Scholten, B 2006, 'Firefighters in the UK and the US: Risk perception of local and organic foods', *Scottish Geographical Journal*, vol. 122, no. 2, pp. 130-148.

Scrinis, G 2007, 'From techno-corporate food to alternative agri-food movements', *local-global*, vol. 4, pp. 112-140.

Shobu, J 2005, *Multifunctional Agriculture: what role for private initiatives*, Organisation for Economic Cooperation and Development, Paris.

Siegel, T 2006, *The real dirt on farmer John*, US. Distributed by CAVU Releasing.

Simons, H 2009, *Case study resaerch in practice*, Sage, London.

Smith, A 1776, *An inquiry into the nature and causes of the wealth of nations*, Whitestone, Dublin.

Smith, D 2001, *Food industry and the internet: making real money in the virtual world*, Wiley-blackwell, Oxford.

Smith, JA 2010, *Innovation study 3: can technology help groceries build community*, Shareable Magazine, viewed 10/11 2011, <<http://www.shareable.net/blog/innovation-study-3-can-technology-help-groceries-build-community>>.

Sonnino, R & Marsden, T 2006, 'Beyond the divide: rethinking relationships between alternative and conventional food networks in Europe', *Journal of Economic Geography*, vol. 6, no. 2, pp. 181-199.

Spiller, K 2010, 'Something different for the weekend' - alterity, performance routine and proficiency at farmers' markets in the Northeast of England', in D Fuller, A Jonas & R Lee (eds), *Interrogating Alterity*, Ashgate, Farnham, UK.

Stark, D 2000, *For a sociology of worth*, Columbia University, October, <[http://www.coi.columbia.edu/pdf/stark\\_fsw.pdf](http://www.coi.columbia.edu/pdf/stark_fsw.pdf)>.

Statistics Canada 2012, *Payroll employment, earnings and hours, December 2012*, by Statistics Canada, Statistics Canada, viewed 12/03/2013, <[http://www5.statcan.gc.ca/access\\_acces/alternative\\_alternatif.action?teng=The%20Daily,%20Tuesday,%20February%2026,%202013:%20Payroll%20employment,%20earnings%20and%20hours,%20December%202012&tfra=Le%20Quotidien,%20le%20mardi%2026%20février%202013%20:%20Emploi,%20rémunération%20et%20heures%20de%20travail,%20décembre%202012&l=eng&loc=dq130226a-eng.pdf](http://www5.statcan.gc.ca/access_acces/alternative_alternatif.action?teng=The%20Daily,%20Tuesday,%20February%2026,%202013:%20Payroll%20employment,%20earnings%20and%20hours,%20December%202012&tfra=Le%20Quotidien,%20le%20mardi%2026%20février%202013%20:%20Emploi,%20rémunération%20et%20heures%20de%20travail,%20décembre%202012&l=eng&loc=dq130226a-eng.pdf)>.

Storper, M & Salais, R 1997, *Worlds of production: the action framework for the economy*, Harvard University Press, Cambridge, MA.

Stræte, E 2004, 'Innovation and changing 'worlds of production': case studies of Norwegian Dairies', *European Urban and Regional Studies*, vol. 11, no. 3, pp. 227-241.

Stuiver, M 2006, 'Highlighting the retro side of innovation and its potential for regime change in agriculture', in *Research in Rural Sociology and Development*, Emerald Group vol. 12, pp. 147-173, <[http://www.emeraldinsight.com/10.1016/S1057-1922\(06\)12007-7](http://www.emeraldinsight.com/10.1016/S1057-1922(06)12007-7) >.

Tashakkori, A & Teddie, C (eds) 2003, *Handbook of mixed methods in social and behavioural research*, Sage, Thousand Oaks.

Taylor, G 2005, *Integrating quantitative and qualitative methods in research*, University Press of America, Lenham, Maryland.

Teddie, C & Tashakkori, A 2003, 'Major issues and controversies in the use of mixed methods in social and behavioural research', in A Tashakkori & C Teddie (eds), *Handbook of mixed methods in social and behavioural research*, Sage Publications, Thousand Oaks, pp. 3 - 50.

Tetch, R 1990, *Qualitative research: analysis types and software tools*, Falmer Press, London.

The Cairns Group 2012, *Member Countries*, The Cairns Group, 20/11/2012, <<http://cairnsgroup.org/Pages/map/index.aspx>>.

The Helsinki Research Institute for Business Administration 1995, *Housholds buying habits for daily consumer goods 1994 and problems experienced by consumers in shopping.*, The Helsinki Research Institute for Business Administration, Helsinki.

The Nielsen Company 2011, *Five things to know about online grocery shopping*, The Nielson Company, 20/02/2012, <<http://blog.nielsen.com/nielsenwire/consumer/five-things-to-know-about-online-grocery-shopping/>>.

The Plexius Group 2012, *The product life cycle*, 20/06/2012, <<http://plexiusgroupllc.wordpress.com/category/life-cycles/>>.

Thomas, O 2012, *Here's why Etsy is worth almost \$700 million*, 12/09/2012, <<http://www.businessinsider.com.au/etsy-valuation-688-million-2012-5>>.

Thompson, G 2003, *Between hierarchies and markets*, Oxford, Oxford.

Thompson, J, Millstone, E, Ely, A, Marshall, F, Shah, E & Stagl, S 2007, *Agri-food system dynamics: pathways to sustainability in an era of uncertainty*, STEPS Centre.

Tropp, D & Barham, J 2008, *National Farmers' Market Summit: Proceedings Report*, Marketing Services Devision.

United Kingdom Department of Trade and Industry 2002, *Business in the information age: international benchmarking study*, by United Kingdom Department of Trade and Industry, United Kingdom Department of Trade and Industry,.

US Bureau of Labor Statistics 1999, *Food, clothing and shelter see different historical spending patterns*, US Bureau of Labor Statistics, Washington, viewed 19/02/2012, <<http://www.bls.gov/opub/ted/1999/Sept/wk1/art02.htm>>.

US Dept. of Agriculture 2011, *Farmers' markets and local food marketing*, United States Department of Agriculture, viewed 10 January 2012, <<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=frmrdirnkt>>.

Venn, L, Kneafsey, M, Holloway, L, Cox, R, Dowler, E & Tuomainen, H 2006, 'Researching European 'alternative' food networks: some methodological considerations', *Area*, vol. 38, no. 3, pp. 248-258.

Vink, N & Sandrey, R n.d., *Value chain strategies in developing countries*, Department of Agricultural Economics, University of Stellenbosh, South Africa, 06/06/2013, <<http://aic.ucdavis.edu/research1/Nick%20Vinck-text.pdf>>.

Volpentesta, A & Ammirato, S 2008, 'Networking agrifood SMEs and consumer groups in local agribusiness', in *Pervasive Collaborative Networks*, pp. 33-40, <[http://dx.doi.org/10.1007/978-0-387-84837-2\\_4](http://dx.doi.org/10.1007/978-0-387-84837-2_4)>.

— 2010, 'A collaborative network model for agrifood transactions on regional base', *Communication in computer and information science*, vol. 112, pp. 319-325.

Waltner-Toews, D 1996, 'Ecosystem health: a framework for implementing sustainability in agriculture', *Bioscience*, vol. 46, no. 9, pp. 686-689.

Ward, M 2003, 'The economics of online retail markets', in G Madden (ed.), *Emerging telecommunications networks: volume 2* Edward Elgar, Cheltenham, UK.

Watts, DCH, Ilbery, B & Maye, D 2005, 'Making reconnections in agro-food geography: alternative systems of food provision', *Progress in Human Geography*, vol. 29, no. 1, pp. 22-40.

Weber, CL & Matthews, HS 2008, 'Food-miles and the relative climate impacts of food choices in the United States', *Environmental Science & Technology*, vol. 42, no. 10, pp. 3508-3513.

Weis, T 2010, 'The accelerating biophysical contradictions of industrial agriculture', *Journal of agrarian change*, vol. 10, no. 3, pp. 315-341.

White, B 2011, *Mapping your thesis: the comprehensive manual of theory and techniques for masters and doctoral research*, ACER Press, Camberwell, Australia.

Williamson, O 1981, 'The economics of organisation, the transaction cost approach', *The American Journal of Sociology*, vol. 87, no. 3, pp. 548-577.

— 1993, 'Calculativeness, trust and economic organisation', *Journal of Law and Economics*, vol. 36, no. 1, pp. 453-486.

Wilson-Jeanselme, M & Reynolds, J 2005, 'Competing for the online grocery customer: the UK experience', in N Korman & B Bjerre (eds), *Grocery E-commerce: consumer behaviour and business strategies*, Edward Elgar Publishing Limited, Cheltenham, pp. 7-36.

Wolf, M 1997, 'A target consumer profile and positioning for promotion of direct marketing of fresh produce: a case study', *Journal of food distribution research*, vol. 28, no. 3, pp. 1-17.

Wolf, M, Spittler, A & Ahern, J 2005, 'A profile of farmers market consumers and perceived advantages of food sold at farmers' markets', *Journal of food distribution research*, vol. 36, no. 1, pp. 192-201.



Yoo, C 2010, 'Product lifecycle theory and the maturation of the internet', *Northwestern University Law Review*, vol. 104, no. 2, pp. 641-661.

Young, D 2012, 'Talk about food should skip the bulldust', *Sydney Morning Herald*, 31/12/2012, <[www.smh.com.au/opinion/talk-about-food-should-skip-the-bulldust-20121230-2c1bj.html](http://www.smh.com.au/opinion/talk-about-food-should-skip-the-bulldust-20121230-2c1bj.html)>.

Yrjola, H & Tanskanen, K 2005, 'Effective e-grocery logistics', in N Korman & M Bjerre (eds), *Grocery e-commerce: consumer behaviour and business strategies*, Edward Elgar Publishing Limited, Cheltenham.

Zapeda, L 2009, 'Which little piggy went to market: Characteristics of US farmers' market shoppers', *International Journal of Consumer Studies*, vol. 33, pp. 250-257.

Zapeda, L & Li, J 2006, 'Who buys local food', *Journal of food distribution research*, vol. 37, no. 3, pp. 5-15.

Zibell, L 2010, 'Outcome predictors of cooperative R&D in Europe: organisational capabilities and cultures', PhD thesis, Cranfield University.

## Appendix A: Research Participant Information Sheet



### PARTICIPANT INFORMATION SHEET SOCIAL SCIENCE/ HUMANITIES RESEARCH

#### Research Title

How is ICT and e-commerce affecting Alternative Agri-food Networks?

#### Invitation

You are invited to participate in a research study I am conducting as part of my PhD research project. My primary supervisor for this project is Professor Jonathan West. The research will examine the potential of information and communication technology (ICT) to reduce the cost of business-to-business and business-to-consumer transactions within local and alternative food systems.

The study is being conducted by:

Benjamin Wills BEc (hons)  
PhD Candidate  
Australian Innovation Research Centre

Professor Jonathan West  
Director  
Australian Innovation Research Centre

#### 1. 'What is the purpose of this study?'

The purpose is to investigate whether groups of local food producers, processors and retailers can form a tighter and more efficient network through the use of information and communication technology and whether such integration has any detrimental outcomes.

## **2. 'Why have I been invited to participate in this study?'**

You are eligible to participate in this study because you are a customer of a food business which we regard to be an 'alternative' food business; or because you are the proprietor or employee of an 'alternative' food business.

## **3. 'What does this study involve?'**

Business owners/employees will be asked to discuss how they currently use information and communication technology when dealing with suppliers and customers.

It is important that you understand that your involvement in this study is voluntary. While we would be pleased to have you participate, we respect your right to decline. There will be no consequences to you if you decide not to participate. If you decide to discontinue participation at any time, you may do so without providing an explanation. All of the research will be kept in a locked cabinet in the office of Professor Jonathan West at level 5, Galleria Building, 33 Salamanca Pl, Hobart. **After a period of 5 years this data will be shredded.**

## **5. Are there any possible benefits from participation in this study?**

This research will lead to a greater understanding of the potential for information and communication technology to increase the efficiency of alternative food systems.

## **6. Are there any possible risks from participation in this study?**

If you are a business owner participating in this study you may be asked to disclose to the researcher details about your main suppliers and customers. For example you may be asked questions about how you use information and communication technologies to deal with specific trading partners. Because this information could be considered commercial in confidence in nature the researchers will ensure that no individual businesses or respondents are identifiable within any research output. The researchers will do this by concealing the names of individual and businesses, and where it is deemed necessary, or requested by an individual or businesses, the researchers will also conceal the exact nature of the product and the location of the study.

## **7. What if I have questions about this research?**

If you would like to discuss any aspect of this study please feel free to contact either Benjamin Wills on ph 03 62267358 or Prof Jonathan West on ph 036226 2273. Either of us would be happy to discuss any aspect of the research with you. You are welcome to contact us at that time to discuss any issue relating to the research study.

This study has been approved by the Tasmanian Social Science Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study should contact the Executive Officer of the HREC (Tasmania) Network on (03) 6226 7479 or email [human.ethics@utas.edu.au](mailto:human.ethics@utas.edu.au). The Executive Officer is the person nominated to receive complaints from research participants. You will need to quote [H11289].

**Thank you for taking the time to consider this study.**  
**If you wish to take part in it, please sign the attached consent form.**  
**This information sheet is for you to keep.**

## Appendix B: Online Customer Survey

### Customer Survey Questions

1. What do you like most about using (insert business name)?
  
2. What do you like least about using (insert business name)?
  
3. On average, how much do you spend with (insert business name) on the following categories each week?  
Standing order \$ \_\_\_\_\_  
Extras \$ \_\_\_\_\_
  
4. On average, how much time do you spend online, shopping for food via (business name) each week?
  - ☐ Less than 15 minutes
  - ☐ 15 to 30 minutes
  - ☐ 31 minutes to an hour
  - ☐ More than one hour
  
5. Have you made any social connections (e.g. either online, or offline) with any of the following groups of people as result of using (business name)?
  - ☐ No new connections
  - ☐ (business name) employees
  - ☐ Farmers
  - ☐ Other local food producer (e.g. bakery)
  - ☐ Other (business name) customers
  
6. Do you buy food at farmers' markets?
  - ☐ Yes, but less frequently now that I use (insert business name)
  - ☐ Yes, I still go regularly despite using (insert business name)
  - ☐ No, I never really shopped at farmers' markets
  - ☐ No, I've stopped going since I started shopping at (insert business name)

7. Do you think the buying local/organic food from (business name) is more or less expensive than buying similar food from a farmers market?

- ☐ More Expensive  
☐ Less Expensive  
☐ Not Sure

8. Do you find shopping for local organic/food is more or less convenient then shopping for similar food from a farmers market?

- ☐ More convenient  
☐ Less convenient  
☐ Not sure

9. During the farmers' market season, where and how often do you buy groceries? Please check (✓) the appropriate columns for each type of store.

STORE	Frequently (more than once per week)	Once per week	Every two weeks	On occasion (once a month)	Not Very Often (once every few months)	Rarely (once or twice a year)	Never
Large Grocery Store							
Small Grocery Store							
Convenience Store							
Farmers Market							
Specialty/Ethnic (e.g. butcher, bakery, fish store, ethnic food)							
Direct from farm							
<u>(business name)</u>							
Other (please specify)							

10. There are a wide range of factors that people consider when buying food, including the usual factors such as price and quality and the more recent concerns about food

safety and fair trade. We would like to know how important the following factors are to you.

	Not Important	Somewhat important	Important	Very important	No opinion
<b>Low price</b>					
<b>In season</b> (fresh)					
<b>Nutritional content</b>					
<b>Brand name</b>					
<b>Ease of preparation</b>					
<b>Appearance</b> (of product)					
<b>Packaging</b> (how it looks; aesthetics)					
<b>Packaging</b> (e.g., recyclable material)					
<b>Grown or produced locally</b> (within 100km)					
<b>Grown or produced in BC</b> (not including locally produced)					
<b>Grown or produced in Canada</b> (outside of BC)					
<b>Grown or produced by someone you know</b>					
<b>Organic</b> (certified)					
<b>Natural, but not certified</b> (e.g., wild, grain fed, not sprayed)					
<b>Fair trade</b> (made by someone who gets fair wage and fair treatment)					
<b>Food safety</b> (e.g., BSE)					
<b>Animal Welfare</b>					
<b>Other:</b> _____					

## Demographic information

10. What are the first three digits of your postal code? \_\_\_\_\_

11. Gender: \_\_\_\_ Male \_\_\_\_ Female

12. Age

- ☐ Under 20 years
- ☐ 21 – 35 years
- ☐ 36 – 50 years
- ☐ 51 – 65 years
- ☐ 66 or older

13. Which range best represents your annual household income?

- ☐ Less than \$20,000
- ☐ \$20,000 - 39,999
- ☐ \$40,000 - \$59,999
- ☐ \$60,000 - \$79,999
- ☐ \$80,000 - \$99,999
- ☐ \$100,000 or more

14. What best described your household type?

- ☐ Single person
- ☐ Multiple adults no children
- ☐ Single adult plus children
- ☐ Multiple adults plus children

15. What best describes your education level?

- ☐ Less than high school
- ☐ High school
- ☐ Diploma
- ☐ Bachelors Degree
- ☐ Post Graduate Qualification

Thank you for completing this Survey!!

Please email to [bwills@utas.edu.au](mailto:bwills@utas.edu.au) or post to



## **Appendix C: Interview schedule for business respondents.**

- 1) What type of product do you sell?
- 2) Are your main customers other businesses or end consumers?
- 3) Who are your most important input suppliers?
- 4) Who are your most important customers?
- 5) Do you currently buy any of your inputs over the internet? If so where do you look for this information?
- 6) Do you currently look for information on products you want to buy over the internet? If so where do you look for this information?
- 7) Do you use any electronic devices or communication technology like computers and the internet to manage your inventory levels?
- 8) Do you belong to any business related communities that use the Internet as their primary way of communicating information? If so what communities are they and what sort of information do they distribute online?
- 9) Do you belong to any business related communities that do not use the internet to communicate? If so what sort of information do they distribute and how do they do this?
- 10) Do you get business related advice or information of any of your supplier/customers or competitors? If so which ones and how do you get this information.
- 11) When dealing with your most important input suppliers, what type of information do you want them to provide you with (i.e. unit price, quality, delivery dates, place of origin etc)?
- 12) How do your input suppliers get this information to you?
- 13) Would you prefer to get this information electronically? If not why not?
- 14) What information do you think your customers want when they buy products off you (i.e. price, quantity, time of delivery, how it was produced, where it was produced etc)
- 15) What type of information do you currently deliver to your customers and how do you deliver it to them?
- 16) Do you use computers to generate (i.e word process and print) information for consumers and do you use the internet to communicate this information at all?
- 17) Is there information about your product that you think your customers would like but which you do not currently provide them? If so why not?
- 18) Do you sell any products over the internet?
- 19) If so, roughly what percentage of sales is carried out over the internet?
- 20) What information do you provide to customers over the internet?
- 21) What type of information do you receive from customers (i.e. orders, product feedback)?
- 22) What medium do customers use to communicate with you?

- 23) If you do not sell your product to the end user briefly describe what happens to that product after it leaves your business up until it reaches the consumer
- 24) Do you cooperate with any other businesses in order to coordinate the transport and storage of either inputs to, or outputs from your business?